

PDP-11 Software  
Source Book  
Volume 1  
Accounting to Insurance

Fifth Edition, July 1986

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PDP-11





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Volume 1  
Accounting to  
Insurance

# PDP-11

## Software Source Book

Fifth Edition

digital

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# Introduction:

## Resources for PDP-11 and PRO Users

Having recently celebrated its fifteenth anniversary, the PDP-11 computer family offers one of the most extensive, proven software libraries available. The *PDP-11 Software Source Book, Fifth Edition*, describes software products available for the entire PDP-11 family, including the Professional (PRO) — the personal PDP. With more than 2500 software products listed, the Source Book is a quick and easy way to access the wide variety of offerings available for PDP-11 systems. Whatever your work environment — office, manufacturing, or laboratory — the *PDP-11 Software Source Book* is your guide to finding the applications and tools that meet your particular needs.

### PDP-11 Software Source Book

This 2-volume collection of PDP-11 and PRO software products consists of 38 industries/generic disciplines containing software product descriptions and a series of reference guides to the software products. Following the reference guides are instructions for submitting new entries to the Software Source Books, the Entry Form for submitting entries, and two reader reply cards — the Order Form/Mailing List card and the Reader's Comments/Questionnaire card.

**Industries/Generic Disciplines:** These categories of software products, listed in the Contents, are arranged alphabetically. Software product descriptions are presented alphabetically within each industry/generic discipline.

Software product descriptions appear in the following format:

- ① **Software Title:** A typical product name is an acronym followed by the full title in parentheses.
- ② **Operating System:** This portion of the entry lists operating systems on which the software product runs. When planning to purchase a software product, you must consider what operating system you have. In that way, you ensure that the software product that you purchase will run on your hardware.
- ③ **Keywords:** Keywords define a software product and give you some idea of the product's function and application, without your having to read the entire description.
- ④ **Description:** This portion of the entry presents the product's features and capabilities.

## vi Introduction: Resources for PDP-11 and PRO Users

- ⑤ **Price:** Unless otherwise indicated, the cost is expressed in U.S. dollars and is frequently given as a range. The price depends on such factors as maintenance costs, your requirements for support and customization, the size and number of computers on which you intend to run the product, and in the case of multimodule products, which modules you require and the number of people using the software.
- ⑥ **Contact:** Call or write to the contact person or company for more information on the software product. The telephone number, company name, and address are listed.

A sample entry follows:

- ① **WHIIMS (What If Information Management System)**
- ② **PDP-11 Operating System:** RSTS, RSX, RT-11  
**PRO Operating System:** P/OS
- ③ **Keywords:** • Data base management • Modeling/simulation  
• Project management • Text management
- ④ WHIIMS is a comprehensive information management system for tracking large-scale projects involving critical time and resource measurement and allocation. The user can tailor the information output using a custom report generator and a full range of graphic chart types, including PERT and Gantt. In addition, the user can employ a "weighting" feature to assign priorities to activities, costs, or times, which helps produce extremely accurate relational models. Customization of the software is available at additional cost.

A version of this product is available for VAX computers.

- ⑤ **Price:** \$1200 - \$75,000
- ⑥ **Contact:** Y. Knott, Technical Sales Manager  
(212) 124-1667  
SYNAPSE SYSTEMS, INC.  
2416 West 39th Street  
New York, NY 00123

**Reference Guides:** The information in this book is referenced in several ways:

- The **Guide to Contents** lists the software product titles alphabetically within each industry/generic discipline and indicates whether each product runs on P/OS, RSTS, RSX, RT-11, or ULTRIX-11.
- The **Keyword Cross-Reference Guide** lists the software product titles alphabetically according to keyword usage and indicates whether each product runs on P/OS, RSTS, RSX, RT-11, or ULTRIX-11.
- The **Product Title List** lists the software product titles alphabetically, without regard to a product's industry/generic discipline or



keyword usage. Products in **bold** type are available through DIGITAL.

- The **Vendor Product Title List** lists non-DIGITAL software vendors and their products alphabetically.
- The **Index** indicates keyword usage within each industry/generic discipline.

**Submitting Entries for Software Source Books:** If you wish to include your software product in one or more of DIGITAL's Software Source Books, read "Submitting Entries for Software Source Books" at the end of Volume 2 and complete the entry form following those instructions.

If the form is missing, request a form by writing to:

Editor, Software Source Books  
MLO5-5/E45  
Digital Equipment Corporation  
146 Main Street  
Maynard, MA 01754-2571

or by calling (617) 493-3200.

## **DIGITAL Services and Publications**

DIGITAL provides a range of services and publications to meet your PDP-11 computing needs.

**DECUS:** Supported in part by DIGITAL, the Digital Equipment Computer Users Society (DECUS) provides a forum for the exchange of computer information. This book lists PDP-11 and PRO software products from the DECUS Program Library, a clearinghouse for software applications and utilities written and submitted by users. The Program Library supplies products and information "as is" and distributes products for nominal service charges. Neither DECUS nor DIGITAL provides software support for DECUS products.

For information on how to join DECUS or to obtain a DECUS Program Library catalog, write to:

DECUS Membership  
219 Boston Post Road  
BPO2  
Marlboro, MA 01752-3011

**Local Sales Office:** Your local DIGITAL sales office is a valuable source of information and service. Your local sales representative can help you purchase DIGITAL software and hardware products, give you information about DIGITAL's role in customizing software or developing a product on a contract basis, order copies of DIGITAL publications, and obtain additional free copies of this book or other DIGITAL Software Source Books.

**Publications:** The following publications may be of use to PDP-11 and PRO users:

- *Microcomputer Products Handbook*
- *PDP-11 Architecture Handbook*
- *PDP-11 Systems and Options Catalog*
- *PDP-11 UNIBUS Handbook*
- *Professional Series Handbook*
- *Supermicrosystems Handbook*

You can order a copy of these publications or the DIGITAL Software Source Books through your local DIGITAL sales office or by writing to:

Digital Equipment Corporation  
Printing and Circulation Services  
Literature Inquiry Fulfillment  
10 Forbes Road, NRO3/M1  
Northboro, MA 01532-2597

You can also obtain the DIGITAL Software Source Books and be added to the mailing list by completing and mailing the Order Form/Mailing List business reply card located at the end of Volume 2.



## **Industries/Generic Disciplines**



# Accounting



Robert Pyle



### **A-to-Z Compu-Share™ Accounting Family Accounts Payable**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • A-to-Z • Accounts payable • Office systems

DIGITAL distributes this software product under license from Compu-Share, Inc.

This flexible, interactive accounts payable package lets the user modify certain parameter files to alter the package. The package has the following features:

- Vendor file, which allows vendors to be grouped into classes, thereby enhancing the reporting capabilities
- Posting payables through an interactive form, with an unlimited number of distributions allowed to general ledger accounts for each invoice posted
- Payables reporting
- Cash disbursements, with checks written (or hand checks posted) through the cash-disbursement program and full detail of all outstanding invoices displayed on the screen for each vendor
- Check writing that accommodates many check formats and check reconciliation, reporting, and voiding
- 1099 reporting
- Recurring accounts payable posting
- Maintenance of historical records and check register
- General ledger interface

A-to-Z Integrated System is prerequisite.

Refer to SPD #A4.23.xx when requesting further information on this product from your local DIGITAL sales office.

Compu-Share™ is a trademark of Compu-Share, Inc.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **A-to-Z Compu-Share™ Accounting Family Accounts Receivable**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • A-to-Z • Accounts receivable • Office systems

DIGITAL distributes this software product under license from Compu-Share, Inc.

This interactive system is used to record accounts receivable data and to report information from the active files on user request. Open-item or balance-forward accounting is available on a customer-by-customer basis.

System features are as follows:

- Classification and maintenance of customer information through an interactive form
- Posting of receivable items through interactive screen entry
- Posting of cash receipts

- Charging of recurring accounts receivable to the account automatically on operator demand
- Automatic application of finance charges to past-due accounts according to a table of finance charge rates established by the user
- Statement generation
- Sales analysis of customer purchasing
- Reporting of aged receivables, invoice-payment analysis, and commissions
- User-definable tax entities
- Maintenance of historical records
- General ledger interface

A-to-Z Integrated System is prerequisite.

Refer to SPD #A4.22.xx when requesting further information on this product from your local DIGITAL sales office.

Compu-Share™ is a trademark of Compu-Share, Inc.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **A-to-Z Compu-Share™ Accounting Family General Ledger**

**PDP-11 Operating System:** Micro/R SX

**Keywords:** • A-to-Z • General ledger • Office systems

DIGITAL distributes this software product under license from Compu-Share, Inc.

This menu-driven data collection and financial reporting package is designed for interactive use. Flexibility is built into the system by the use of parameter files that control financial statement reporting. The system has the following features:

- Chart of accounts
- Up to 13 accounting periods allowed
- Journalizing in two forms — the standard form for entering debits and credits to any account in the chart of accounts and showing a balanced entry for each screen and an alternative form for experienced users to maximize data input speed
- Standard journal for postings and an allocation journal for distributing dollars from one account into multiple accounts, based on a percentage calculation
- Financial statement report writer
- Spreadsheet interface, which optionally creates files for use in the Supercomp-Twenty™ spreadsheet
- Account analysis
- Open-item accounting and multiple-level accounting

A-to-Z Integrated System is prerequisite.

Refer to SPD #A3.94.xx when requesting further information on this product from your local DIGITAL sales office.

Compu-Share™ is a trademark of Compu-Share, Inc.  
Supercomp-Twenty™ is a trademark of Access Technology, Inc.



## 6 Accounting

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **A-to-Z Compu-Share™ Accounting Family Inventory Control**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • A-to-Z • Inventory • Office systems

DIGITAL distributes this software product under license from Compu-Share, Inc.

This perpetual-inventory package operates in conjunction with A-to-Z Compu-Share Accounting Family Order Entry and Accounts Receivable. The system has the following features:

- User-defined units of measure indicating how products are sold — for example, measurement, color, finishes, and types. Conversion tables establish relationships among the various units of measure.
- User-specified product costing method — LIFO, FIFO, or average-cost basis.
- Commitment of stock to fill an order as it is received, thereby committing quantities to fill back orders before stock is allocated to current orders.
- Two types of user-defined serial numbers.
- Physical-inventory processing and generation of a user-designed physical-count sheet.
- Back-order processor for filling back orders in a chronological or a preferred-customer order.
- Inventory movement, purchase analysis, inventory turns, and inventory stock reports.

A-to-Z Integrated System, A-to-Z Compu-Share Accounting Family Order Entry, and A-to-Z Compu-Share Accounting Family Accounts Receivable are prerequisite.

Refer to SPD #A4.43.xx when requesting further information on this product from your local DIGITAL sales office.

Compu-Share™ is a trademark of Compu-Share, Inc.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **A-to-Z Compu-Share™ Accounting Family Order Entry**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • A-to-Z • Office systems • Order processing

DIGITAL distributes this software product under license from Compu-Share, Inc.

This comprehensive order entry, invoicing, and sales analysis system is menu driven and provides interactive operation. Designed to work

closely with the Inventory Control module, Order Entry has the following features:

- Product identification with a 15-character product code, 120 characters of descriptive information, and a 3-character department, defined in the Accounts Receivable system
- Generic/inventoried products; if Inventory Control is not available, all products are generic — such as labor, service, freight and handling charges, or under a specified dollar value
- Product status — obsolete or replaced
- An 18-digit quantity field, with 8 characters to the right of the decimal point, for defining and invoicing fractional units of a product
- A user-specified pricing algorithm
- An unlimited number of units of measure for each product
- Support for multiple warehouses
- An order entry screen that can be tailored
- Inclusion in the order entry process of customer validation by customer number or a portion of the customer name and modification of the ship-to address on the order entry screen or by recall from the customer file

A-to-Z Integrated System and A-to-Z Compu-Share™ Accounting Family Accounts Receivable are prerequisite.

Refer to SPD #A4.44.xx when requesting further information on this product from your local DIGITAL sales office.

Compu-Share™ is a trademark of Compu-Share, Inc.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Abax Depreciation System**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11, TSX-PLUS™

**Keywords:** • Cost accounting • Fixed assets • Inventory

This comprehensive tool analyzes current fixed assets and determines the feasibility of adding assets. The system calculates at the point of data entry and provides a monthly depreciation report, year-to-date disposition and purchases reports, a projected-depreciation report, and an amortization schedule. All current depreciation methods are included.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$2000

**Contact:** Charles R. McKown, President  
(316) 792-7318 or (800) 221-1265

ABAX COMPUTER SYSTEMS  
625 Washington Street, P.O. Box 1349  
Great Bend, KS 67530



### **ABLE® Client Writeup System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Financial management • General ledger  
• Payroll • Report writer

This interactive reporting system enables accountants to create financial or management reports/analyses to gauge business performance. ABLE also permits entry of employee after-the-fact payroll information and automatically prepares quarterly returns and year-end W-2 forms.

ABLE's nonrestrictive account-numbering scheme gives each client its own chart of accounts. Thus, each entity of a multicorporate client could have its own account-numbering scheme. Data can be entered in random order, and adjustments can be entered for prior accounting periods. Data entry under ABLE is carefully controlled by audit reports and edit lists, including the Transaction Edit List, the General Journal, the Payroll Journal, and the detailed General Ledger.

ABLE's powerful report writer and generator prepares the reports and analyses and enables the computer to automatically make and post such entries as standard adjusting entries, accrual entries, depreciation entries, depletion entries, and the like. Virtually any report or analysis that a qualified accountant might prepare manually is prepared automatically. The system prorates, calculates, allocates, and figures percentages (using any number of 100% figures) — all without "people" intervention.

A version of this product is available for VAX computers.

**Price:** \$4900 — \$15,000

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.

1010 S. Weinbach Avenue

Evansville, IN 47714-2994

### **ABS Accounting Software**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Accounts payable • Accounts receivable  
• Order processing • Payroll

This fast, sophisticated package includes Accounts Payable, Accounts Receivable, General Ledger, Inventory Management, Order Entry/Invoicing, and Payroll. Programs feature integrated modules that operate together or independently, multiple-user access, menu choice of functions for each program, automatic record updating, multiple-branch capability, up-to-the-minute reports, instruction and reference guides, security, and audit trails.

Software training and support are available.

A version of this product is available for VAX computers.



**Price:** Available upon request

**Contact:** Thomas L. Mitchell or Larry Bean  
(312) 577-7752

ABS ASSOCIATES, INC.  
3550 Salt Creek Lane  
Arlington Heights, IL 60005

### **Accountant II Accounts Payable System**

**PDP-11 Operating System:** RSX

**Keywords:** • Accounts payable

This versatile, easy-to-use system functions with the Accountant II General Ledger and Project/Job Cost systems. The Accounts Payable System lets you display all open invoices for a vendor or all the disbursements made for the month. The system automatically produces a cash-requirement report displaying the cash requirements for the current week and next four weeks. The system also prints checks, produces expense distribution reports for general ledger, posts expenses to projects, and provides reports for accounts payable expense distribution, check registers, cash requirements, aged trial balance, and checks.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$4000

**Contact:** Richard Northrup, Sales Director  
(212) 221-2517

COMPUTRON BUSINESS SOLUTIONS, INC.  
701 Seventh Avenue, Suite 9W  
New York, NY 10036

### **Accountant II Accounts Receivable System**

**PDP-11 Operating System:** RSX

**Keywords:** • Accounts receivable

This system can run stand alone or with the Accountant II Order Entry, General Ledger, and Project/Job Cost systems. The system's inquiry capabilities let you display all unpaid invoices for a customer. Cash is applied directly to a customer's open invoices with a single keystroke. A cash application journal balances to the month's deposits. Statements can be run at any time during the month. Both midmonth and end-of-month statements can be produced and printed on request. Invoicing can be performed as a by-product of the Order Entry System or directly by the Accounts Receivable System. In either case, invoices are posted to the Open A/R File. The system provides daily and monthly invoice registers, invoices, statements, aged trial balance, cash journals, and salesperson commission reports.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$4000

**Contact:** Richard Northrup, Sales Director  
(212) 221-2517

COMPUTRON BUSINESS SOLUTIONS, INC.  
701 Seventh Avenue, Suite 9W  
New York, NY 10036

### **Accountant II General Ledger System**

**PDP-11 Operating System:** RSX

**Keywords:** • Financial analysis • General ledger  
• Report writer

This easy-to-use and versatile system functions with the Accountant II Accounts Payable and Accounts Receivable systems. The General Ledger System uses your chart of accounts; you do not need to modify your account numbers. The system allows you to produce consolidated financial statements by pressing a button, consolidate individual statements from companies with dissimilar charts of accounts, alter the sequence and form of your financial statements without any programming changes, and print both a detail statement and a summary statement automatically.

The system accepts entries automatically from the Accountant II Payables and Receivables systems. The entries can be entered into the general ledger on a detail or a journal entry basis.

The system provides journal listings, trial balance, general ledger, financial statements, and budget reports.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$4000

**Contact:** Richard Northrup, Sales Director  
(212) 221-2517

COMPUTRON BUSINESS SOLUTIONS, INC.  
701 Seventh Avenue, Suite 9W  
New York, NY 10036

### **Accountant's Time and Billing System**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Billing • Financial planning • Scheduling

This package provides for all aspects of the time and billing function for a certified public accounting firm. The system allows for multimeter and multifunction controls with numerous reporting functions. The system provides for retainer billing, fixed-fee billing, and time and expense billing on a variety of bases. The month-end reporting provides for expense and revenue along with productivity analysis for both responsible and reporting producers.

The system also permits the designation of any or all matters as time-budgeted items, permitting their tracking and analysis. Data base summary screens permit the rapid assessment of the financial position of the firm. Financial modeling screens permit the accountant to model the firm and thus set realistic goals in the planning for growth of the firm.



This software was designed, developed, and implemented by a certified public accounting firm for public accounting firms.

A version of this product is available for VAX computers.

**Price:** \$3500 – \$4500

**Contact:** Lee Cates

(615) 523-0553

DORROUGH PARKS & CO.

119 Summit Hill Drive

Knoxville, TN 37902

### **Accounting, Integrated**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Cost accounting • Manufacturing  
• Property management • Real estate

This fully integrated, on-line, multiuser, UNIX\*-based accounting system includes A/P, Billing-A/R, G/L, Inventory Control, Job Costing, Order Processing, Purchase Order Accounting, Sales Analysis, Cost Estimating, and Payroll. The features of each module are listed under individual headings.

True multiuser design allows concurrent use of any program. In addition, since multicompany/multidivision support is built into all programs, the user can be assigned to a predefined company/division or allowed to specify company/division.

All information is kept up to date. Timely information is ensured through automatic G/L update from all modules. All management reports can be run at any time for any fiscal period (past or current). Processing of new month's information can proceed while the prior month is being "closed." A print key provides a hard copy of any screen image.

Printed transaction logs provide a complete audit trail of every transaction. Transaction logs include error codes highlighting invalid data fields. Programs contain extensive checks for error conditions and record them in an error log file. Supplemental security at menu level limits access to unauthorized programs.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel

(312) 332-3242

NEAL NELSON & ASSOCIATES

185 N. Wabash, Suite 1908

Chicago, IL 60601

### **Accounts Payable**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Financial analysis  
• General ledger

## 12 Accounting

The ADD Accounts Payable system provides a flexible vendor file that allows for variable discount/payment terms, multicompany internal distributions for general ledger reports, and a history of vendor activity detailing purchases and payments on an open-item basis. Vouchered checks are produced and discounts computed automatically. The system includes forecasts of future cash requirements, payables trial balance, aging of open invoices, bank reconciliation, disbursement reports, and general ledger distribution by account and automatically interfaces with ADD's General Ledger system.

The system can record additional invoice information, such as units purchased, retail invoice value, and a free field text entry to record comments about a given invoice.

A version of this product is available for VAX computers.

**Price:** \$2500 - \$5000

**Contact:** Bruce A. Bott, President  
(201) 584-4026

ADVANCED DIGITAL DATA, INC.  
354 Route 206  
Flanders, NJ 07836

### Accounts Payable

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11

**Keywords:** • Accounts payable • Cost accounting • Purchasing

This menu-driven system, which includes a job costing feature, provides printing of cash disbursements by vendor, with default capability at voucher entry time; check verification reports before printing; check printing with stub detail; a check register showing computer, handwritten, or voided checks; automatic voucher number assignments; batch control totals; and autposting to A/P open file and distribution file. This system prints accounts payable, aged trial balance, GL/job, and job distribution reports. Accounts Payable interacts with other Armadale business packages programmed in Pascal II.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$3000

**Contact:** Michael G. Sifton  
(416) 477-8000

ARMADALE SYSTEMS INC.  
Toronto Buttonville Airport  
Markham, Ontario L3P 3J9 Canada

### Accounts Payable

**PDP-11 Operating System:** TSX-PLUS™

**Keywords:** • Accounts payable

This accounts payable package provides complete vendor name and address, including month-to-date and year-to-date purchases controlling the number of vouchers. Vouchers are entered to the payables system. A payment date is set up, and vouchers due are reported on a cash-



requirements report. Items can be deferred with the remaining items to be paid. The system prints vendor checks with detailed stubs by voucher and invoice number.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$2000

**Contact:** Sam Wingate, Vice President  
(813) 935-8844 or 935-8951

AUTOMATION RESOURCES CORP.  
2901 W. Busch Boulevard, Suite 309  
Tampa, FL 33618

### Accounts Payable

**PDP-11 Operating System:** RSX

**Keywords:** • Accounts payable

This module maintains master files for vendors, processes vendor invoices and payments, makes appropriate journal entries automatically, and prints various management reports: vendor listings and account status, invoices, scheduled payments, expenses, agings, cash requirements, and deposits. Vendor invoice and disbursements journals and a check register are also produced. Special forms include checks and check stubs and limited 1099 capabilities.

An optional job cost interface automatically allocates costs, including overhead, to appropriate jobs. An optional interface with purchase order processing automatically matches invoices to purchase orders and automatically reduces open commitments on each purchase order as invoices are received and acknowledged.

A separate processing is available for subcontractors.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Janna McMillan  
(617) 275-5810  
BREUER & CO.  
54 Middlesex Turnpike  
Bedford, MA 01730

### Accounts Payable

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Billing

This application provides the capability to record and list all payables incurred by the firm for all invoices from vendors and interfaces to CRS's Management Program 1000 and 2000 software applications, as well as to General Ledger.

A version of this product is available for VAX computers.

**Price:** \$3500 - \$6000

**Contact:** Suzanne Gunnells  
(215) 825-7500

COMPUTE-R-SYSTEMS, INC.

5165 Campus Drive

Plymouth Meeting, PA 19462

### Accounts Payable

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS, RSX

**Keywords:** • Accounts payable

This system, developed by MCBA/CSA, processes prepaid vouchers, normal vouchers, and manual payments and automatically tracks and posts recurring vouchers. Features include automatic calculation of due dates for a voucher based on vendor terms, check reconciliation, manual or automatic voucher payment preparation, and printed reports of vendor inquiry, cash requirements, vendor analysis, aged trial balance, expense distribution, and federal 1099 forms. This system also prints payables checks in stub-over-check format and interfaces to five other CSA packages.

A version of this product is available for VAX computers.

**Price:** \$2100 - \$2310

**Contact:** William Ferris  
(203) 735-1819

COMPUTER SOFTWARE ASSOCIATES

366 Main Street, P.O. Box 492

Ansonia, CT 06401

### Accounts Payable

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts payable • Financial management

This system contains the vendor master, the invoice file, the recurring file, and the holdback file. The vendor master stores supplier information such as a supplier number, name and address, and year-to-date balances. The invoice file, recurring file, and holdback file retain individual invoice and payment transactions consisting of a vendor number, amount, and so on. The vendor file and the invoice files (invoice, recurring, and holdback) integrate to produce vendor reports and inquiries. At month end, after vendor reports are printed, paid invoice transactions are moved to the history file, leaving only unpaid invoices.

Invoice features include multicompany A/P support and the ability to enter manually paid invoices to the A/P system. Thus, each vendor may be assigned default terms that may be overridden during invoice recording. Invoices that occur regularly may be set up and released for payment when required. However, a percentage of the invoice may be held back and released when required. A flexible check-writing routine allows invoices due to be paid using selected criteria. The system allows reconciliation of cashed checks and provides an outstanding check list. Aging is based on invoice dates.



The A/P interfaces to the General Ledger. The user may set up a table of G/L account numbers for each company. Statistical data may be recorded during the distribution of the invoice and passed on to the G/L.

All reports allow various selection options and printing ranges. Reports can be printed, spooled to disk, or viewed on screens. Reporting features on-line inquiries, history files, a cash-requirements report, and summary and detail aging reports.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$15,000

**Contact:** Tom Muskiluke  
(519) 893-4200

DIGITAL BUSINESS COMPUTERS  
133 Manitou Drive  
Kitchener, Ontario N2C 1L4 Canada

### Accounts Payable

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Accounts payable

This system prepares invoices for payment, prints checks, and provides up-to-date information on cash requirements. The system is flexible enough to handle almost any type of invoice payment — partial, complete, even prepaid. The Accounts Payable system permits control of each flow, based on the client's unique requirements.

Some significant features and reports are:

- Alphabetical or numeric vendor listing and vendor analysis
- Expense account cross-reference
- Cash requirements, aged analysis, and pre-check-writing reports
- Payment deferral
- Automatic check writing
- Optional interface to the bank reconciliation program and to the job cost module for updating costs charged to specific job cost breakdowns
- Complete handling of subcontract retainage, with flexibility in both calculating and paying the retained amounts

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls  
(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL  
114 E. Gregory Street  
Pensacola, FL 32501

### Accounts Payable

**PDP-11 Operating System:** CTS-300

**Keywords:** • Accounts payable

This comprehensive free-standing module of programs provides for the control and payment of vendor invoices on an accrual basis. Liability and discounts are automatically monitored while providing vendor historical data. An optional interface is also provided for automatic posting to the companion General Ledger system.

The system features single-source direct entry through CRTs, tutorial prompting for simplified operation, multiple GL distribution at the time of vouchering, automatic control of discount-due dates, preediting of amounts to be automatically paid, automatic preparation of checks and vouchers, check reconciliation, direct master file inquiry, and on-demand report printing.

At the time of vouchering, distribution can be automatic or made manually to up to nine GL accounts. The GL numbers are interactively verified, and the account description is displayed on the CRT. The full invoice amount distribution is also verified.

Invoice processing is accomplished by interactive CRT entry of a 4-digit vendor number (with automatic verification and display of vendor name), invoice number and date (one invoice to a voucher), invoice amount, discount amount (if applicable), due date, and then up to nine GL account distributions. The system verifies the total distribution balances to the invoice amount. For prepaids, the check number and date are also entered. A voucher number is automatically assigned to each invoice entered.

Payment of open items can be by either deferral or selection method. In the deferral method, all items prior to the specified due date, except those specifically deferred, are paid. Deferral can be for an entire vendor or for selected vouchers in a vendor. In the selection method, only those items selected are paid. Partial payments can be made in either method.

**Price:** \$1500 - \$2000

**Contact:** Robert J. Steinis  
(203) 378-6010

FOOD DISTRIBUTOR SYSTEMS, INC.

959 Main Street  
Stratford, CT 06497

### Accounts Payable

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable

Memory required: 256KB and 20MB of disk storage.



This system processes and provides reports for complete expense and cost control and for cash-disbursement management. The system handles voucher input, vendor analysis, multiple divisions, cash requirements, selective payments, overlapping-period processing, interface with the general ledger, and automatic allocations. An on-line history for each vendor is available. Reports include cash requirements, aging, open invoice, transaction register, and check register.

Our software warranty provides users with comprehensive support and training. Each turnkey system includes up to four hours of field training for each package, at no charge, during the first 30 days following installation. One user manual is provided with each software package. Additional copies are available.

The software, written in BASIC-PLUS, runs under RSTS/E on PDP-11 and compatible minicomputers. End-user, OEM, and software reseller licensing agreements are available.

**Price:** \$1495

**Contact:** Warren C. Nagler

(714) 997-8927

JADTEC, INC.

546 West Katella Avenue

Orange, CA 92667

### **Accounts Payable**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Accounts payable

This fully integrated, on-line, multiuser UNIX\*-based accounts payable system supports full and partial payments, debit and credit memos, adjustments, allowances and refunds, and manual and separate checks. A prepay edit list allows final review before checks are written. The system maintains all information to print 1099 forms for vendors and uses a flexible "open-item" A/P design. Separate categories of A/P, allowing analysis of total payables by type (G/L account number), are maintained. Voided or unused check numbers can be entered to assist in accounting for all checks on the check register.

Also available are a check-reconciliation system, a print key providing hard copy of any screen image, true multiuser design for concurrent program use, timely information by automatic G/L update, built-in multicompany/multidivision support, and a user-assigned predefined company/division or option to specify company/division.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel

(312) 332-3242

NEAL NELSON & ASSOCIATES

185 N. Wabash, Suite 1908

Chicago, IL 60601

### Accounts Payable

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable

This system provides all the forms, programs, and procedures necessary to perform the accounts payable function. Menu orientation makes this system easy to learn and simple to use. With the system's effective error reporting and interactive editing of input information, most errors can be identified and corrected before reaching the main system.

Reviewed annually by outside accountants, this system has a complete, easy-to-follow audit trail and is continually kept up to date. Comprehensive reporting includes payables agings, cash requirements forecasts, detail and summary check registers, payables trial balances, ledger payables expense distribution reports, and several reports showing paid and unpaid invoice information.

The system can be run stand alone or can be interfaced with a companion general ledger system. The documentation includes detailed operating procedures, flow diagrams, file layouts, report samples, program operating instructions, and a dictionary of data and terms used in the system. Complete support and training are available.

A version of this product is available for VAX computers.

**Price:** \$2500 - \$3500

**Contact:** Sharen Robinson, Sales Assistant

(219) 935-5121

PLYCOM SERVICES, INC.

P.O. Box 160

Plymouth, IN 46563

### Accounts Payable

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Office systems • Report writer

Accounts Payable operates as a voucher system to accumulate information on vendor invoices and other payable obligations. Voucher entries generate unique voucher numbers for audit and control purposes.

The system provides payment selection key due date and individual invoices on vendors; allowance for partial payments; handling of prepayments for checks already paid as well as checks scheduled to be paid; unlimited general ledger expense and job costing distribution for each voucher; inquiry into month-to-date or year-to-date purchases, payments, and current balance; creation of accounts payable and cash disbursement journal entries; and access to any journal of any month for current fiscal or prior year.

The reporting features are vendor listing; mailing labels; voucher distribution; voucher history; precheck pay register; check writing register; check printing; journal listing for accounts payable, cash



disbursement, and job costing; age analysis; and an open-invoice report.

Accounts Payable allows multiple users and provides password security.

A version of this product is available for VAX computers.

**Price:** \$3000 – \$6000

**Contact:** Linda Wingfield, Software Product Manager  
(919) 766-0571

RESOURCE SYSTEMS CORP.

P.O. Box 1546

Clemmons, NC 27012

### **Accounts Payable and Cash Disbursements Package**

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS

**PRO Operating System:** P/OS

**Keywords:** • Accounts payable • Billing • Financial analysis

This system features a highly flexible method of posting accounts payable charges and making cash disbursements to vendors. All posting is done with an interactive screen form to make posting faster and easier. Other user-oriented features include:

- User-defined vendor codes with up to 15 characters and a miscellaneous vendor class for 1-time payments
- A user-designed check form that accommodates almost any check design
- The choice of processing invoice payments individually or automatically for a group of vendors
- Recurring charges stored for group posting each period
- Multiple accounts payable control accounts that may be used in the same posting session
- A posting process that allows the user to hold invoices, make partial and unapplied payments (prepayments or CODs), and make allowances for manual payments
- User-defined terms and discounts that can be modified during payment of invoices
- 1099s printed for specified vendors
- For all entries, an audit trail provided by transaction journals
- Check reconciliation for outstanding checks and error corrections
- General ledger account distributions posted individually or summarized by account
- A password security system
- Interfaces to Job Cost and General Ledger; other complementary products include the Payroll, Accounts Receivable, Fixed Assets, Order Entry, and Inventory Control systems

Reports include analyses of cash requirement, aged invoices, unapplied payments, invoice detail by vendor, a recurring invoice listing, a vendor and vendor class listing, and a check register and check reconciliation report.

The user's guide includes information for the office manager, the terminal operator, and the application supervisor. The reference manual provides information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$925 - \$7500

**Contact:** Sales Department

(806) 792-3785

COMPU-SHARE, INC.

3824 50th Street

Lubbock, TX 79413

### Accounts Payable System

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Accounts payable • Financial planning

• Telecommunications

Memory required: 256K.

This system reveals your current and future cash requirements on any date and for any time period selected. An aged analysis of cash requirements is immediately available. You can plan decisions based on reliable measurements of immediate and future capital requirements.

Features include easy single-entry, open-item aged analysis, cash requirements and discounts-available reports, expense distribution ledger, check writing and register, vendor history analysis, automatic contract payable entries, multiple-company capabilities, detailed audit listings, 1099 tax reporting, workmen's compensation reporting, automatic transfer to general ledger, automatic departmental distribution, and security password protection.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1950 - \$3500

**Contact:** John M. Cohen

(404) 448-5259

COMMUNICATIONS SOFTWARE, INC.

2388 Pleasantdale Road

Atlanta, GA 30340

### Accounts Payable System

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • General ledger

This total accounts payable system with complete interface to the general ledger includes data verification and information checks on entry, update routines with audit trail, automatic payment of monthly vouchers, register or invoices on the system, checks produced on a due-



date basis as well as on a vendor-number basis, complete audit trails, handling of credit memos and vouchers, automatic entry of "repeat" data during entering routine, and automatic file backup before updates for recovery.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### Accounts Payables

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable

This program offers a complete accounts payable system.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Frank Zimmer, President  
(201) 231-9400  
UNITRONIX CORP.  
50 County Line Road  
Somerville, NJ 08876

### Accounts Receivable

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11

**Keywords:** • Accounts receivable • Billing • Point of sale

This menu-driven system, which includes a Billing module, provides on-line posting of invoices and receipts, open-item and balance-forward accounting, and flexible maintenance of data files, such as all relevant customer information, collect/prepaid, terms codes, ship codes, discount percentage, and month-to-date and year-to-date sales and cost of goods. The customer aging report is printed in detail or summarized by customer or salesperson. Batch totals and statement flags are displayed to control transaction flow. Accounts Receivable interacts with other Armadale business packages programmed in Pascal II.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$3000

**Contact:** Michael G. Sifton  
(416) 477-8000  
ARMADALE SYSTEMS INC.  
Toronto Buttonville Airport  
Markham, Ontario L3P 3J9 Canada

### Accounts Receivable

**PDP-11 Operating System:** TSX-PLUS™

**Keywords:** • Accounts receivable

This complete accounts receivable system provides customer name, address, and phone number and keeps track of month-to-date and year-to-date sales and controls on credit limit. Invoices are entered with cash and credit memoranda to cause printing on demand of an aged trial balance and customer statements. Finance charges can be used on a selected basis.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$2000

**Contact:** Sam Wingate, Vice President  
(813) 935-8844 or 935-8951

AUTOMATION RESOURCES CORP.

2901 W. Busch Boulevard, Suite 309

Tampa, FL 33618

### Accounts Receivable

**PDP-11 Operating System:** RSX

**Keywords:** • Accounts receivable

This module maintains master files for customers/clients, processes customer/client invoices and payments, prints statements and invoices and management reports, and makes appropriate journal entries automatically. Reports and on-line inquiry include customer/client listings and account status; invoice, cash receipts, aging, cash projections, deposits, and revenue reports; and an accounts receivable journal. Special forms include invoices and statements.

The Business Information System provides full integration among job cost, accounts receivable and billing, and general ledger. You can produce invoices automatically, based on the job cost calculation of the amount earned and not billed, or manually, if your invoice amounts usually do not match the job cost calculations exactly. You can override automatically prepared invoices as well.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Janna McMillan

(617) 275-5810

BREUER & CO.

54 Middlesex Turnpike

Bedford, MA 01730

### Accounts Receivable

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS, RSX

**Keywords:** • Accounts receivable

This system, developed by MCBA/CSA, provides on-line maintenance of customer master file information and allows you to enter and edit



sales, credit, and debit memos and to enter cash receipts. Other features include an inquiry into customer accounts, calculation and processing of finance charges, printed accounts receivable aging reports, customer statements, accounts receivable general ledger distribution reports, sales analysis reports, and commissions-due reports. The software interfaces with CSA's General Ledger and Customer Order Processing packages.

A version of this product is available for VAX computers.

**Price:** \$1700 - \$1870

**Contact:** William Ferris  
(203) 735-1819

**COMPUTER SOFTWARE ASSOCIATES**

366 Main Street, P.O. Box 492

Ansonia, CT 06401

### **Accounts Receivable**

**PDP-11 Operating System:** Micro/RXS, RSX

**Keywords:** • Accounts receivable

This stand-alone module of the complete CSI Business System maintains a demographic customer file and prints invoices, statements, late notices with customer account analysis, delinquent account reports, and account status reports. Data is automatically posted to the general ledger. The number of transactions, entries, or departments is unlimited. The system allows multidepartment or multicompany businesses. The user-oriented, multiterminal system is designed for small to medium-size businesses and is set up in house for phone modem demonstrations.

**Price:** \$1500

**Contact:** Madelyn Scheer  
(608) 258-8668

**CREATIVE SOFTWARE INC.**

P.O. Box 3493

Madison, WI 53704

### **Accounts Receivable**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts receivable • Billing • Credit  
• Financial management

This system is based on the customer master file and the open-item file. The customer master file stores such information as customer number, name and address, aging balances, and control flags. The open-item file retains individual invoice and payment transactions consisting of a customer number, invoice number, reference number, amount, and so on. The two files combine to produce customer statements, inquiries, and a variety of reports and may be used individually to produce reports such as the name and address report or the open-item file listing. The customer number is the primary index to access both files. At

month end, after customer statements are printed, paid invoice transactions are purged from the open-item file, leaving only unpaid invoices.

Features include two utility programs that allow the operator to set a table of terms and a table of G/L account numbers for your company. An interest calculation allows variable rates of interest to be calculated on the aged amounts. Aging is calculated on invoice due dates that consider the terms offered. A utilities menu allows the user to reorganize A/R files, recover from power failures, and customize tables for currency types and terms and audit trail serial numbers. A variety of currencies are allowed. A currency table allows conversion to standard currency. The software handles multiple accounts receivable and interfaces to the General Ledger.

Printing features include a name and address printing program and a label printing program. Statements may be printed at variable statement cycles. All reports, including the interest report, allow various selection options and printing ranges. Reports can be directed to several printers, spooled to disk, or viewed on screens.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$15,000

**Contact:** Tom Muskiluke  
(519) 893-4200

**DIGITAL BUSINESS COMPUTERS**

133 Manitou Drive

Kitchener, Ontario N2C 1L4 Canada

### Accounts Receivable

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Accounts receivable • Audit

This sophisticated yet simple-to-operate system accomplishes all the general accounting functions associated with accounts receivable. Data entered once into the system updates or prepares every record, document, and management report affected, leaving a clear audit trail.

Some significant features and reports are:

- Capability of handling balance-forward and open-item records for the same client
- Automatic posting of fixed charges — up to 999 user-defined charge types — including service charges
- Automatic age analysis, statement preparation in several formats, and commission calculations
- Three invoice formats
- User-defined terms and shipping instructions
- Optional interface to the job cost module, which will update amounts billed and received by job
- Complete flexibility in calculating and paying job retainage amounts



The system provides sales reports by customer, customer type, city, county, or state and by division or tax code. Trial balance and sales history reports are included.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls

(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL

114 E. Gregory Street

Pensacola, FL 32501

### **Accounts Receivable**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Accounts receivable

This fully integrated, on-line, multiuser UNIX\*-based accounts receivable system uses a flexible open-item design and prepares invoices, debit and credit memos, detail and summary aged trial balances, and daily and monthly journals and registers. The programs support full and partial payments, adjustments, and refunds and allow cash and early-payment discounts. Separate categories of A/R can be automatically maintained, allowing analysis of total receivables by G/L account number. Either detail or summary A/R ATB can be printed at any time for one or more customers.

Also available are automatic calculation of monthly finance charges, maintenance of standard charges for automatic billing events, a print key providing hard copy of any screen image, true multiuser design for concurrent program use, timely information by automatic G/L update, built-in multicompany/multidivision support, and a user-assigned predefined company/division or option to specify company/division.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel

(312) 332-3242

NEAL NELSON & ASSOCIATES

185 N. Wabash, Suite 1908

Chicago, IL 60601

### **Accounts Receivable**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable

This system provides all the forms, programs, and procedures necessary to perform the accounts receivable function. Menu orientation makes this system easy to learn and simple to use. With the system's effective error reporting and interactive editing of input information, most errors never reach the main system.

Reviewed annually by outside accountants, this system has a complete, easy-to-follow audit trail and is continually kept up to date. Comprehensive reporting includes several receivables agings, cash receipts forecasts, receivables trial balances, sales and receipts journals, and ledger distribution reports.

The system can be run stand alone or can be interfaced with a companion general ledger system. The documentation includes detailed operating procedures, flow diagrams, file layouts, report samples, program operating instructions, and a dictionary of data and terms used in the system. Complete support and training are available.

A version of this product is available for VAX computers.

**Price:** \$2500 - \$3500

**Contact:** Sharen Robinson, Sales Assistant  
(219) 935-5121

PLYCOM SERVICES, INC.  
P.O. Box 160  
Plymouth, IN 46563

### Accounts Receivable

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable

This package, programmed in VAX BASIC combined with limited use of file-driven procedures, replaces manual accounts receivable systems or updates existing automated systems. The package controls the entry of sales transactions and cash received to apply against those transactions. Every transaction is related to a specific customer account and is applied to the outstanding customer balance. All data entered is validated before being accepted by the system. The complete audit trail traces all activity to its source and determines your company's income. Salesperson activity and commission history is maintained by customer(s) and can be extended to the product level.

All system codes, reference numbers, valid print devices, file specifications, on/off switches, and default information are user accessible and easily maintained. Multiple branches and companies (with or without separate data files) are handled by the Accounts Receivable system, and user-maintainable menu and security systems are included, with security at both the program and option levels.

This package interfaces with the RSC Inventory, General Ledger, Purchase Order, Order Entry, and/or Job Costing modules.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$6000

**Contact:** Linda Wingfield  
(919) 766-0571

RESOURCE SYSTEMS CORP.  
4000 Clemmons Avenue, P.O. Box 1546  
Clemmons, NC 27012



## Accounts Receivable and Statement Generation

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS

**PRO Operating System:** P/OS

**Keywords:** • Accounts receivable • Billing • Sales analysis  
• Taxes

This system features a highly flexible method of posting customer charges and payments and obtaining historical reports and aging analyses. All posting is done with an interactive screen form to make posting faster and easier. Other user-oriented features include:

- User-defined numeric or alphabetic customer codes and a user-designed customer statement that accommodates almost any statement design
- Multiple shipping addresses for each customer and billing to another customer
- The choice of posting on an open-item or a balance-forward basis
- Recurring customer charges stored for posting
- Unapplied credits allowed
- Reports for an unlimited date range and user-defined dates for aging analyses
- Commission calculations and reporting, including shared commissions, on sales or receipts and sales analyses available by company, salesperson, or product department
- Sales tax for multiple taxing entities
- For all entries, an audit trail provided by transaction journals
- A password security system
- Interfaces to Order Entry and General Ledger; other complementary products include the Accounts Payable, Payroll, Fixed Assets, Job Cost, and Inventory Control systems

Reports include sales analyses and daily sales summaries, an aged accounts receivable, invoice payment analysis, customer and recurring accounts receivable listings, commission reports, customers over credit limit, and a tax liability report.

The user's guide includes information for the office manager, the terminal operator, and the application supervisor. The reference manual provides information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$925 - \$7500

**Contact:** Sales Department  
(806) 792-3785  
COMPU-SHARE, INC.  
3824 50th Street  
Lubbock, TX 79413



## **Accounts Receivable System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Financial analysis

This total accounts receivable system with complete A/R management reporting uses an open-item concept. This system records all billable and nonbillable entries and up to four types of cash entries; allows for standard/optional \$\$ rates, optional service charge calculations by client, personalized client A/R statement messages, easy interactive reporting of all files, balance-forward and open-item account handling, and instant access to client records; provides complete on-line inquiring/processing; and performs extensive on-line editing and balancing.

A version of this product is available for VAX computers.

**Price:** \$1500

**Contact:** Elvin E. Smith or Forrest E. Weddle

(913) 782-8544

RUF CORP.

1533 E. Spruce

Olathe, KS 66061

## **Accounts Receivable/Billing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Sales analysis

Memory required: 256KB and 20MB of disk storage.

The program facilitates timely collections and better cash flow through statement preparation, automatic aging at any time, and preparation of selected collection letters. The system handles cash receipts posting and features automatic posting to the general ledger and the examination of an individual customer's current accounts or account history at any time. Reports include aged receivables by customer and by salesperson, open-item statements for one customer, a selected group of customers, or for all customers; cash receipts by day for the month or by customer for the month; and customer master files.

The sales invoicing is a bridge between order entry and accounts receivable. The programs feature credit status checking, automatic numbering of invoices, and automatic posting of the accounts receivable. Reports include sales by product, sales by customer, sales by account executive, and earned commissions. The system allows partial billing, credit memos, and multiple prices for each product.

Our software warranty provides users with comprehensive support and training. Each turnkey system includes up to four hours of field training for each package, at no charge, during the first 30 days following installation. A user manual is provided with each software package.

The software, written in BASIC-PLUS, runs under RSTS/E on DIGITAL PDP-11 and compatible minicomputers. End-user, OEM, and software reseller licensing agreements are available.

**Price:** \$1495

**Contact:** Warren C. Nagler  
(714) 997-8927  
JADTEC, INC.  
546 West Katella Avenue  
Orange, CA 92667

### **Accounts Receivables**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable

This program offers a complete accounts receivable system.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Frank Zimmer, President  
(201) 231-9400  
UNITRONIX CORP.  
50 County Line Road  
Somerville, NJ 08876

### **A/D (Fixed Assets and Depreciation), MCBA, Inc.**

**PDP-11 Operating System:** CTS-300, Micro/RSX, RSTS, RT-11,  
XENIX™

**Keywords:** • Cost accounting • Financial planning  
• Fixed assets

This package handles asset acquisition, asset retirement, and the periodic calculation of depreciation. The new Accelerated Cost Recovery System (ACRS) for depreciation of fixed assets has been fully integrated into the package and includes the new depreciation schedules, the new expensing regulations, and the new provisions for investment tax credit and recapture. In addition to handling the new ACRS depreciation methods, the system implements all other standard depreciation methods for assets put in service before 1981.

The user can simultaneously record and track two sets of depreciation for taxes and financial statements, respectively. The user can obtain, on request, numerous reports that provide a breakdown of assets from many points of view, with lesser or greater detail.

The package can also print an amortization schedule for any loan, given the principal amount, interest rate, and term in years. The equal monthly or yearly payment is automatically calculated, and cumulative figures for interest paid and principal paid are shown, period by period, as well as the remaining principal in each period.

The program also provides maximum tax benefits from depreciating assets; allows maintenance to the asset and general ledger code files; handles up to 13 accounting periods a year; allows entry and editing of asset acquisitions, changes, and retirements; permits nine methods of depreciation and handles bonus depreciation and expensed amounts;



tracks and maintains investment tax credit and provides for automatic recapture on retirement; projects depreciation amounts and the life of any asset, for all depreciation methods; may be automatically interfaced to MCBA's general ledger package; and separates assets from a previously grouped asset.

The package can also print the asset file printout; asset acquisition, fixed asset, and asset retirements registers; first-year expensed amounts, general ledger depreciation, investment tax credit, depreciation method change, asset change history, and A/D distribution to G/L reports; asset depreciation expense journal; projected depreciation summary; and amortization schedules.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$3000

**Contact:** Sales Representative  
(818) 957-2900

MCBA, INC.  
2441 Honolulu Avenue  
Montrose, CA 91020

### **AiM™ Payables**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Cost accounting  
• Financial management • Office systems

This flexible on-line, interactive accounts payable system can be used stand alone or be interfaced with other systems. The system has user-controlled options and does not require a programmer for adaptation. Those options include top- or bottom-stub checks, saving vendor/invoice history, general ledger interfacing, vendor check-digit numbering, preprinted (customized) check forms, and entry of purchase order numbers.

The cash-requirements report gives management control over check issuance and, therefore, cash flow. Checks can be printed selectively, based on the availability of funds. The system supports partial payment, hold payment, manual checks, voided checks, and changes in due dates. Screen-formatted entry encourages user acceptance, decreases operator training time, and ensures data integrity.

A version of this product is available for VAX computers.

**Price:** \$3500 – \$5000

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.  
1010 S. Weinbach Avenue  
Evansville, IN 47714-2994



**AiM™ Payroll — Interactive****PDP-11 Operating System:** RSTS**Keywords:** • Cost accounting • Office systems • Payroll  
• Taxes

This interactive system computes, prints, and reports multioffice and multistate payroll. Screen-formatted entry encourages user acceptance and data integrity. A full complement of reports to meet both management and government requirements is generated. Payroll in a new quarter cannot be run until the 941 information from the previous quarter has been printed and cleared. Tests are performed to ensure that employees are reported on a state quarterly form. An employee with year-to-date earnings cannot be deleted. The user can control whether other earnings are taxable or nontaxable. If the earnings are taxable, the system will pay overtime based on a “computed” average hourly rate as prescribed by the Federal Wage and Hour Law. The system allows unlimited deductions. A menu selection is provided so the user can maintain FICA, U.C., and SDI rates; page and form size; and check kind without programmer assistance.

A version of this product is available for VAX computers.

**Price:** \$3500 – \$5000**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.

1010 S. Weinbach Avenue  
Evansville, IN 47714-2994**AiM™ Receivables and Billing System****PDP-11 Operating System:** RSTS**Keywords:** • Accounts receivable • Billing  
• Data base management • Financial management

This user-friendly menu-driven, operator-oriented system with interactive entry/edit is parameterized by “site standards” and provides:

- Cash receipts and credit/discount registers
- Automated invoice preparation and invoice register
- Cash receipt distribution across corporate lines
- Aging reports, customer statements, and journal register
- Customer lists — alphabetical, numeric, long form, short form
- Collection and sales histories
- Automatic “standard bill” items, selective calculation and entering of late charges, and posting to general ledger
- On-line master file maintenance
- Mailing labels with multiple reprints
- Reruns without operator intervention
- Optional check-digit control
- Input-sequence number control
- Unlimited chart of accounts
- Imprint headers for multiple users

- Report on average collection days
- Selective aging reporting for credit department
- Deletion control over active accounts
- Easy clearing of spooled files after successful print
- "View or que"
- Input batch control
- Customer open items/or balance forward selectively
- Customer inquiry

A version of this product is available for VAX computers.

**Price:** \$3500 - \$5000

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.  
1010 S. Weinbach Avenue  
Evansville, IN 47714-2994

### **AIM/AP (Accounting Information Manager for Accounts Payable)**

**PDP-11 Operating System:** BOS/5, MBOS/5

**Keywords:** • Accounts payable

Memory required: 64K.

AIM/AP offers complete processing and reporting for accounts payable records. Flexible and easy to use, AIM/AP is patterned after manual accounts payable systems. This multiuser system prohibits payment in excess of approved amounts. Vendor status can be changed from active to inactive. The system can handle holds and partial payments. Cash-requirements reports and payment-approval lists are generated. The system prints checks and a check register. Complete user documentation is provided for inexperienced computer operators.

Access to all AIM programs is password protected.

**Price:** \$1000

**Contact:** Maria Rich  
(315) 337-1000

MULTICEPT CORP.  
1721 Black River Boulevard  
Rome, NY 13440

### **AIM/PR (Accounting Information Manager for Payroll with Cost Accounting)**

**PDP-11 Operating System:** BOS/5, MBOS/5

**Keywords:** • Cost accounting • Payroll • Taxes

Memory required: 64K.

AIM/PR offers standard payroll processes, labor cost accounting, payroll-related fringe benefit accruals, and manual checks. AIM/PR processes weekly, biweekly, and special payrolls. User-defined accruals



and deductions allow customization. Both hourly and salaried employees with individual hour premiums are acceptable. Multiple-state income taxes, individual earnings, personnel records, 12 deduction categories, 6 work-hour types, 99 departments, 30 labor charge codes, and 6 accrual accounts are featured. The AIM/Payroll system is a multi-user system. Complete user documentation is provided.

Access to all AIM programs is password protected.

**Price:** \$1200

**Contact:** Maria Rich  
(315) 337-1000  
MULTICEPT CORP.  
1721 Black River Boulevard  
Rome, NY 13440

### **A/P (Accounts Payable)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable

This system is available for balance-forward and open-item combinations. Aged amounts for the outstanding balances due to each supplier are maintained, as well as an optional ability to maintain holdbacks, if applicable. A significant feature of the system is the check-writing function, which can be based on an invoice-due date or on the age of the outstanding transactions. Transactions are entered and validated on line. An on-line inquiry program yields a display of the status of any supplier. Reports include a payables journal that lists all detail, a supplier name and address list, labels, optional check generator and remittance advice, an aged trial balance, and a document register. Integration to other applicable Data Key applications is a standard feature.

**Price:** \$3000

**Contact:** Marvin Gogal, Branch Manager  
(403) 464-7121  
DATA KEY LTD.  
2107 - 87 Avenue  
Edmonton, Alberta T6P 1L5 Canada

### **A/P (Accounts Payable), MCBA, Inc.**

**PDP-11 Operating System:** CTS-300, Micro/RSX, RSTS, RT-11, XENIX™

**Keywords:** • Accounts payable

This accrual accounts payable package allows maintenance of the vendor file; entry and editing of new payables, adjustments, credits, and prepaids; flexible payment preparation, including partial payments; check reconciliation; automatic interface to MCBA's general ledger, job costing, standard product costing, and purchase order/receiving packages; full printer spooling; support for seven terminal types and multiple companies; and a security system.



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This package also provides the vendor file printout, an alphabetical vendor list, an accounts payable voucher register, an accounts payable aging report, vendor analysis and vendor account inquiry, a cash requirements report, a pre-check-writing report, an accounts payable check register (and accounts payable checks), an accounts payable/general ledger distribution report and cross-reference by vendor, check reconciliation report, and federal 1099 forms.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$3000

**Contact:** Sales Representative  
(818) 957-2900

MCBA, INC.  
2441 Honolulu Avenue  
Montrose, CA 91020

### APPGEN Accountants Client Write-Up

**PDP-11 Operating System:** XENIX™

**Keywords:** • Data collection • Payroll • Purchasing  
• Report writer

This program provides report-writing features and flexible data entry for accountants. Data input accuracy is maintained because the system allows transaction entries to be edited and corrected before posting. (Transaction entry screens match the formats of the original documents.) Entry screens exist for each type of original document — cash disbursements, sales, purchases, payroll deposits, and journals. Payroll and cash disbursement check entry can be mixed. However, statements produced through the statement generator are not tied to the chart of accounts format.

The system allows flexible account number formats, on-line CRT account inquiry for any account, a unique fiscal year for each client, and recurring journal entry. The system automatically generates a budget based on the prior years' budgets. The system also includes audit trails — posting programs that automatically produce journals.

Reports include trial balance, general ledger, and worksheet reports. Payroll reports include summary, history, 941s, quarterly, and W-2s.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Sales Department  
(713) 974-2298 or (800) 231-0062

SOFTWARE EXPRESS  
2925 Briarpark Boulevard, 7th Floor  
Houston, TX 77042

**APPGEN Accounts Payable****PDP-11 Operating System: XENIX™****Keywords:** • Accounts payable

This system provides comprehensive transaction abilities for vendor invoices, debit and credit memos, adjustments, and manual checks. Transaction entries can be edited and corrected before posting, for data-input accuracy. Transaction entry screens match the formats of the original documents.

Manually written checks can be entered, edited, and posted; built-in check-reconciliation abilities are included. In addition, checks can be printed by A/P account or cash account number.

Vendor-oriented features include alphabetic or numeric vendor listings. A screen display allows inquiry into open items by vendor. A cash-requirements report can be printed by vendor or A/P account number. An aging report can be printed that includes all or selected vendors or that lists vendors by account number. The system also includes a payables voucher selection for payment, vendor file maintenance facilities, and vendor analysis reports.

The system includes audit trails — posting programs that automatically produce journals. This system integrates with the Job Cost and General Ledger systems.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$600

**Contact:** Sales Department  
(713) 974-2298 or (800) 231-0062  
SOFTWARE EXPRESS  
2925 Briarpark Boulevard, 7th Floor  
Houston, TX 77042

**APPGEN Accounts Receivable****PDP-11 Operating System: XENIX™****Keywords:** • Accounts receivable • Billing • Credit

This system handles the accounts receivable functions for sales. Data input accuracy is maintained by allowing transaction entry screens to be edited and corrected before posting. (Transaction entry screens match the formats of the original documents.) Transaction entries include sales, cash receipts, credit and debit memos, adjustments, and finance charges. The system interfaces to the invoicing system for automatic input of sales entry information.

The system allows complete customer and salesperson file maintenance. Information can be added, deleted, or modified. Customers can be listed alphabetically or numerically. The user can perform on-line inquiries into customer accounts. The system accommodates open-item and balance-forward accounts simultaneously. Open credits can be held and applied in accounts as desired.



Reports include production of detail or summary aged trial balances with automatic or operator-specified cut-off dates. Customer ranges can also be specified. The system also performs statement runs on demand and automatically calculates and posts finance charges. Sales reports include monthly sales and cash summaries and commissions due. Audit trails include posting programs that automatically produce journals.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$600

**Contact:** Sales Department

(713) 974-2298 or (800) 231-0062

**SOFTWARE EXPRESS**

2925 Briarpark Boulevard, 7th Floor

Houston, TX 77042

### **APPGEN Fixed Assets**

**PDP-11 Operating System:** XENIX™

**Keywords:** • Financial analysis • Fixed assets • Taxes

This program provides the following:

- Classification and categorization of assets in any order desired, with appropriate group totals
- Depreciation, including all ACRS methods; 125%, 150%, and 200% declining balance; sum of the year's digits; and straight line for any period desired
- Automatic shift from declining balance to straight line when advantageous, if requested
- Bonus depreciation calculations, with automatic limitations
- Investment credit reporting with automatic calculations of investment credit in the same format as Form 346B, including limitations on used Section 38 property
- Investment credit recapture reporting
- Automatic calculations of excess depreciation for recapture upon sale of asset
- Depreciation schedule, 8½" × 11" size for submittal with tax return

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$2000

**Contact:** Sales Department

(713) 974-2298 or (800) 231-0062

**SOFTWARE EXPRESS**

2925 Briarpark Boulevard, 7th Floor

Houston, TX 77042



**APPGEN General Ledger****PDP-11 Operating System:** XENIX™**Keywords:** • General ledger

General Ledger, also fed by Accounts Payable, Payroll, and Accounts Receivable as a comprehensive single-entry system, provides flexible account number formats; automatic budget generation, based on the prior year's budget; on-line CRT account inquiry with detail; recurring journal entry; multicompany financial reporting; data-input accuracy, as transaction entries can be edited and corrected prior to posting; transaction entry screens that match the format of original documents; and audit trails — posting programs automatically produce journals.

The comprehensive statement generator allows customized financial statements, including statement of change in financial condition. Statements are not tied directly to the chart of accounts format. The trial balance, general ledger, and worksheet reports are standard.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$600**Contact:** Sales Department

(713) 974-2298 or (800) 231-0062

SOFTWARE EXPRESS

2925 Briarpark Boulevard, 7th Floor

Houston, TX 77042

**APPGEN Job Cost****PDP-11 Operating System:** XENIX™**Keywords:** • Cost accounting • Project management

Fed from the Accounts Payable and Payroll systems, Job Cost provides flexible job identification and allows CRT job inquiry for on-line analysis of jobs. The system allows summary and detail cost tracking with unlimited cost categories in a job. User-defined subtotalling on reports, period and job-to-date cumulative hours and dollars, and cost versus budget data, with completion percentage and projections, are included.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$1500**Contact:** Sales Department

(713) 974-2298 or (800) 231-0062

SOFTWARE EXPRESS

2925 Briarpark Boulevard, 7th Floor

Houston, TX 77042

### **A/R (Accounts Receivable)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable

This system is available for balance-forward and open-item combinations. Aged amounts are maintained, and service charges dependent on those amounts, with variable interest rates, can be levied. Optionally, payment terms and customer holdbacks can be handled. Transactions entered result in immediate update applied against the customer record and are edited and validated on line. An on-line inquiry program displays the status of any customer. Statements can be produced with a variety of optional formats. Other reporting facilities include a receivables journal that lists all detail, an aged trial balance, a customer name and address list, mailing and filing labels, a transaction list of open items that are outstanding, and a document audit register.

**Price:** \$3000

**Contact:** Marvin Gogal, Branch Manager  
(403) 464-7121

DATA KEY LTD.

2107 - 87 Avenue

Edmonton, Alberta T6P 1L5 Canada

### **A/R (Accounts Receivable), MCBA, Inc.**

**PDP-11 Operating System:** CTS-300, Micro/RXS, RSTS, RT-11,  
XENIX™

**Keywords:** • Accounts receivable

This open-item or balance-forward accounts receivable package allows maintenance of salesperson, customer master, A/R valid G/L account files; entry and editing of sales, credit and debit memos, and cash receipts; inquiry into customer accounts through the CRT; automatic or manual calculation of finance charges; interface to MCBA's general ledger and customer order processing packages; a security system; and support for multiple companies.

This package also provides the customer master file printout; an alphabetical customer list; sales and receipts journals; accounts receivable aging, A/R-to-G/L distribution, commissions-due, and finance charges reports; and sales analysis by customer, customer type, salesperson, territory, and sectional center.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$3000

**Contact:** Sales Representative  
(818) 957-2900

MCBA, INC.

2441 Honolulu Avenue

Montrose, CA 91020



**BAS (Budgetary Accounting System)****PDP-11 Operating System:** RSTS**Keywords:** • Cost accounting • Education • Financial analysis  
• Government

This financial and administrative package is designed for colleges, universities, school boards, municipalities, and paragonovernmental agencies. BAS features integrated encumbrance and actual general ledger; multiple user-defined chart-of-account structures that support element dictionaries; a financial report writer with user-defined format, account selection and sequence, totaling hierarchy, selection of financial data elements, journal entry detail, and arithmetic calculations and capability of combining current year and up to nine prior years of history; user-defined subledger control (capital, work orders, special projects, vehicle cost, and so forth); accounts payable and check processing/reconciliation; vendor control and information; and purchase order (commitment) control.

A version of this product is available for VAX computers.

**Price:** \$30,000 (Canadian)**Contact:** Dennis Sakamoto  
(416) 666-3833

S.R.B. INTERNATIONAL LTD.

Whitby Corporate Centre

209 Dundas Street E., Suite 205

Whitby, Ontario L1N 7H8 Canada

**Buddy's Membership Dog Club Module****PDP-11 Operating System:** CTS-300, Micro/RSTS, Micro/RXS,  
RSTS, RSX, RT-11**PRO Operating System:** CTS-300, PRO/UNIX™, RT-11, TSX-11,  
UNIX™**Keywords:** • Accounts receivable • List processing

This product, written in DIBOL, handles membership lists for all breed, specialty, or obedience training dog clubs, as well as membership additions, changes, and deletions, including breed, effective membership date, and miscellaneous status codes. The system also provides continuous-envelope printing, numerical and alphabetic mailing lists, and membership lists for all members or from a particular date.

UNIX™ is a trademark of VenturCom, Inc. UNIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$250**Contact:** Neil Freeman  
(808) 235-3401

NEIL FREEMAN CONSULTANTS

45-449 Hoene Place

Kaneohe, HI 96744



## **Budgetary Accounting**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Financial analysis

This on-line real-time system computerizes all fund accounting, including appropriations, revenues, disbursements, budgeting, and vendors. The system also provides complete accountability and reporting as required. Financial information is available through inquiry or selected report request.

The menu-driven system prevents expenditures of unavailable funds and provides ease of operation, real-time account history inquiry, and editing and verification of transactions. Daily disbursement transactions are for regular payment of purchase order, payment of contract, disbursement of previously issued warrant, unencumbered warrants, transfers, and court warrant.

On-line real-time add, change, delete, and printout functions are available for appropriation, revenue, fund, vendor, budget, encumbrance, and disbursement maintenance. Availability of money will be verified upon each encumbrance transaction. Entries can be edited before posting.

Available reports include appropriation ledger, receipt ledger, fund ledger, outstanding-encumbrance list, outstanding-warrants list, budget and receipt reports, and monthly financial statements.

A version of this product is available for VAX computers.

**Price:** \$6000 - \$10,000

**Contact:** James W. Sanderbeck, Vice President  
(216) 489-1885

PM COMPUTER SERVICES CO.  
630 - 30th Street, N.W.  
Canton, OH 44709

## **C-11 Accounts Payable**

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** P/OS

**Keywords:** • Accounts payable • Query facilities  
• Report writer

Accounts Payable allows you to measure the impact of your company's cost distribution and cash-flow requirements. This comprehensive accounting application allows vendor and open-item inquiry for instant information access; provides multiple-period general ledger processing on invoices, material requisitions, and debit memos; provides an automatic interface to General Ledger for unlimited expense distribution; processes prepaid invoices and installment payments; provides automated or manual check processing; provides an optional Job Cost interface with automatic updates of material, equipment, labor, overhead, and miscellaneous costs by job and phase; provides an optional Inventory interface to automatically update stock balances;

allows selectable aging on cash-flow reports; offers parameter selection on reports by vendor, job, phase, and expense distribution; and provides password protection for data security.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000

**Contact:** Denis Peterson  
(516) 483-3123

CBM ASSOCIATES, INC.  
955 Front Street  
Uniondale, NY 11553

### **C-11 Accounts Receivable**

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** P/OS

**Keywords:** • Accounts receivable • Calculation aids

The package allows customer and open-item inquiry for instant information access; maintains both open-item and balance-forward customers; offers multiple-period general ledger processing; allows unlimited revenue account allocation on invoice entry; allows partial or complete payments to specific invoices and processing of miscellaneous cash receipts; offers a cash sales option; provides an optional interface to Sales Order Processing to maintain open orders and back orders; offers an optional job cost interface for job revenue accounting; offers an optional inventory interface to automatically update stock balances; provides gross-profit analysis to summarize daily profits; provides detailed sales analysis by customer, salesperson, inventory item, product category, or invoice date; provides selectable aging on cash-flow reports; prints an optional invoice or statement by customer; calculates finance charge and discounts from user-defined parameters; allows parameter selection on reports by customer, date, item, salesperson, or invoice date; and provides password protection for data security.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000

**Contact:** Denis Peterson  
(516) 483-3123

CBM ASSOCIATES, INC.  
955 Front Street  
Uniondale, NY 11553

### **C-11 General Ledger**

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** P/OS

**Keywords:** • General ledger • Query facilities • Report writer



This comprehensive accounting application allows general ledger account inquiry for instant information access; maintains general ledger accounts with activity balances for 13 accounting periods; maintains this year, last year, and budget figures for each account; consolidates general ledger files for hierarchical department/division/company structures; offers custom financial statements without program modifications by means of user-formatted Report Control File; provides both budgetary and historical comparison on statements; offers multiple-period general ledger posting and processing; accommodates 12-character alphanumeric account numbers; provides automatic balancing control during data entry to ensure debit/credit balance; provides automatic general journal posting from accounts receivable, accounts payable, fixed assets, job cost, and payroll; allows parameter selection on reports by account number, source code, or report format, and provides password protection for data security.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000

**Contact:** Denis Peterson  
(516) 483-3123

CBM ASSOCIATES, INC.  
955 Front Street  
Uniondale, NY 11553

### C-11 Integrated Accounting Package

**PDP-11 Operating System:** Independent, RSX, RT-11,  
TSX-PLUS™

**Keywords:** • General ledger • Inventory • Report writer  
• Sales analysis

This package includes 14 integrated accounting applications: Sales Order Processing, Accounts Receivable, Accounts Payable, General Ledger, Human Resource Management, Hospital Resource Management, Mortgage Banking I and II, Property Manager Tracking System, Materials Management, Report Writer, Purchase Order Processing, Inventory, and Job Cost.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500/module – \$4500/module

**Contact:** Denis Peterson  
(516) 483-3123

CBM ASSOCIATES, INC.  
955 Front Street  
Uniondale, NY 11553



**C-11 Inventory****PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™**PRO Operating System:** P/OS**Keywords:** • Inventory

The system allows inventory-item inquiry for instant information access; provides valuation by LIFO, FIFO, and average-cost methods; allows on-line updates of inventory items through Sales Order Processing, Purchase Order Processing, Accounts Receivable, and Accounts Payable; provides automatic inventory-alert information by established reorder point and estimates cost of new-stock requirements; processes manual inventory adjustments and prints the inventory adjustments log; maintains on-hand, on-order, and committed balances; allows for multiple pricing structures; provides a physical-inventory report sorted by bin location; offers parameter selection on inventory reports by item, product category, and activity level; and provides password protection for data security.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000**Contact:** Denis Peterson

(516) 483-3123

CBM ASSOCIATES, INC.

955 Front Street

Uniondale, NY 11553

**C-11 Inventory I****PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™**PRO Operating System:** P/OS**Keywords:** • Inventory • Query facilities • Report writer

This comprehensive accounting application provides inventory item inquiry for instant information access; valuation by LIFO, FIFO, and average-cost methods; on-line updates of inventory items, using sales order processing, purchase order processing, accounts receivable, and accounts payable; automatic inventory alert information by established reorder point, and estimated cost of new-stock requirements; manual inventory adjustments and printed inventory adjustments log; on hand, on order, and committed balances; multiple pricing structures; physical inventory reports sorted by bin location; parameter selection on inventory reports by item, product category, and activity level; and password protection for data security.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000**Contact:** Denis Peterson

(516) 483-3123

CBM ASSOCIATES, INC.  
955 Front Street  
Uniondale, NY 11553

### C-11 Job Cost

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** P/OS

**Keywords:** • Cost accounting • Financial analysis  
• Manufacturing

Job Cost automatically records costs and revenues as you process other accounting data. A complete variance analysis against your estimates by cost center focuses on your job profitability.

The system allows job and phase inquiry for instant information access; provides accounting of estimated and actual costs by job or by job phase; provides optional interfaces with Accounts Payable, Accounts Receivable, Payroll, and General Ledger; posts revenue to jobs and phases from Accounts Receivable; posts labor hours and labor costs to jobs and phases from Payroll; posts material, labor, and equipment charges to jobs and phases from Accounts Payable invoices and material requisitions; provides for warranty accounting as a separate phase of each job; automatically creates overhead, finished goods, and work-in-process entries for posting to General Ledger; automatically allocates overhead based on labor hours, labor dollars, or material costs; provides parameter selection on reports by job, phase, and manager; and provides password protection for data security.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Denis Peterson  
(516) 483-3123

CBM ASSOCIATES, INC.  
955 Front Street  
Uniondale, NY 11553

### C-11 Payroll

**PDP-11 Operating System:** Independent, RSX, TSX-PLUS™

**Keywords:** • Cost accounting • Payroll • Query facilities

This package not only processes checks but also allows labor expense distribution and reporting by department, job, and phase for complete cost control. The system provides a report writer interface; allows employee and department inquiry for instant information access; offers payroll processing; provides processing of payroll input and reports by multiple companies, divisions, or groups; offers optional manual check processing; provides a general ledger interface for posting labor cost data and payday liabilities; provides a job cost interface with labor input by job, department, and expense class; provides user



access to tax tables for annual rate charges; allows parameter selection on reports; and provides password protection for data security.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000

**Contact:** Denis Peterson

(516) 483-3123

CBM ASSOCIATES, INC.

955 Front Street

Uniondale, NY 11553

### **C-11 Purchase Order Processing**

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** P/OS

**Keywords:** • Order processing • Purchasing • Query facilities  
• Report writer

This comprehensive accounting application provides order inquiry for instant information access; processing of new, received, and invoiced orders; processing of returned items and miscellaneous debits; printing of purchase orders; cancellations and changes to purchase orders; an open-order and receiving report with breakdown by selected status; an optional inventory interface with an on-line update of on-order and on-hand quantities, as well as costing statistics; an optional job cost interface with automatic updates of material, equipment, labor, overhead, and miscellaneous costs by job and phase; an accounts payable interface for posting invoiced orders and processing payments to vendors, as well as analyzing cash requirements and vendor activity; parameter selection on reports by vendor, inventory item, and expense distribution; and password protection for data security.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000

**Contact:** Denis Peterson

(516) 483-3123

CBM ASSOCIATES, INC.

955 Front Street

Uniondale, NY 11553

### **CAS (Comprehensive Accounting System)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Financial management • Inventory • Purchasing  
• Sales analysis

This system, written in DIBOL, is highly interactive and menu driven. The major modules include Accounts Payable, Accounts Receivable, Payroll, Inventory Management, Order Entry/Invoicing, Purchasing, and Sales Analysis, with all modules interfaced with General Ledger.

The menu system incorporates password security, allowing only those users with authorization to access specific modules. In addition, menu presentations list only those modules accessible to the user.

Print management includes on-line/character printers, spooling, printers attached to terminals, and multiple-pitch selection for character printers. Terminal compatibility includes VT100 and VT200 series. Internal file management fully protects data files and provides an automatic restart recovery feature in the event of power failure or other interruption.

CAS supports multiple branch/division organizations by allowing multiple inventories, customer sets, vendor sets, and so forth. The integrated general ledger produces consolidated financial statements, as well as combined consolidated holding-company balance sheets and profit or loss statements from organizational entities.

The software installation procedure is highlighted by a menu-driven automatic process that queries the operator for tailored options, then installs the software without further intervention. All update activity produces a complete audit trail, including master file maintenance. Site-specific information, such as company name, sales tax locations and rates, state payroll tax tables, inventory pricing rules, and so forth, is stored in a common table master. Thus, users can tailor and update frequently, changing variables to meet specific business needs.

A version of this product is available for VAX computers.

**Price:** \$5560 - \$13,125

**Contact:** Dan Sadler

(801) 268-1395

D & M SYSTEMS, INC.

986 Atherton Drive, Suite 201

Salt Lake City, UT 84123

### **CAS.1 (General Ledger)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • General ledger • Report writer

This module may be interfaced with the other CAS modules and uses the standard double-entry accounting method. The module consists of interface management, manual journal entry, chart-of-account maintenance, budgeting, and prior-year history. Four standard report formats, consisting of general ledger, working trial balance, source cross-reference, and chart-of-account listings, are provided as well.

A user-maintained report writer allows a user to custom tailor balance sheets, profit or loss statements, budget analysis, prior-year comparisons, components of working capital, cash flow, changes in financial position, and other user-created reports. When fully interfaced with other CAS modules, daily financial statements are available. A multiple branch/division entity structure provides reports at the most detailed or most consolidated level.



The general ledger account number format can be up to 16 characters with embedded dashes for structured account numbering. Automatic chart-of-accounts generation allows a basic skeleton of accounts to be expanded to meet the needs of all subsidiary reporting entities. Year-end closing is an automatic process and does not require reentry of balances that are carried forward.

A version of this product is available for VAX computers.

**Price:** \$695 – \$1640

**Contact:** Dan Sadler

(801) 268-1395

D & M SYSTEMS, INC.

986 Atherton Drive, Suite 201

Salt Lake City, UT 84123

### **CAS.2 (Accounts Payable)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Accounts payable

This module, which may be interfaced with general ledger and uses accrual accounting, consists of vendor file maintenance, voucher entry, partial payment entry, pre-check writing, cash requirements, check writing, check register, general ledger account distribution, alphabetical vendor list, aging analysis, monthly disbursements, monthly check register, and vendor analysis. CAS.2 handles detailed or summary general ledger distributions, single vendor master common to all branches or multiple vendor masters unique to each branch, and automatic or manual voucher number control and optionally forces all discounts to be taken. Multiple cash accounts may be used for single or multiple branches, which allow multiple accounts payable accrual accounts. Discounts may be automatically calculated as a percentage or entered as a specific dollar amount.

Support for hand-written and prepaid or partial payments is provided so that all accounts payable information is consistently posted to the general ledger. Check writing provides for multiple invoices/vouchers to be paid with the same check. Full control of checks to be written is provided through the interactive pre-check writing, allowing individual selection of vendors and vouchers to be paid, and individual deferral of vendors and vouchers, as well as selection and deferral by cut-off date across all vendors and vouchers.

General ledger account distribution can be reviewed in detail and in summary prior to the interface to general ledger.

A version of this product is available for VAX computers.

**Price:** \$695 – \$1640

**Contact:** Dan Sadler

(801) 268-1395

D & M SYSTEMS, INC.  
986 Atherton Drive, Suite 201  
Salt Lake City, UT 84123

### **CAS.3 (Accounts Receivable)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Accounts receivable • Billing • Sales analysis

This module, which may be optionally interfaced with general ledger and order entry/invoicing, consists of cash receipts, manual sales entry, account inquiry, aging analysis, customer file maintenance, alphabetical customer list, label printing, monthly finance charging, monthly customer statements, monthly sales/cash summary, sales tax reporting, and salesperson reporting. CAS.3 allows tailorable interface with general ledger, single customer master common to all branches or multiple customer masters unique to each branch, daily or monthly aging, minimum finance charge with base, and future aging.

Individual customers may be established as balance-forward or open-item accounting methods, have separate bill-to records, individual finance charge rates, and allow or disallow monthly statements with or without past-due messages. Aging reports are available on demand, providing detailed or summary analysis, no activity, delinquent account, and credit balance account exception reports. Salespersons may be defined by name. Information is reported on each salesperson for sales/costs month to date and year to date. Terms can be tailored, including discount percentage, default terms day, default terms month, and whether aging should be based on invoice date or due date.

Sales tax location codes may be defined by description and preset with a percentage of tax; freight tax may be allowed or disallowed. Information is reported on taxable/nontaxable sales with sales/freight tax collected month to date and year to date.

Past-due messages may be defined for 30, 60, and 90+ days past due, with 100 characters available for each delinquent period. Credit history for each customer is maintained, including 12 prior months of payment history. Cash receipts may be automatically applied to multiple open items or posted as unapplied for later application.

A version of this product is available for VAX computers.

**Price:** \$695 - \$1640

**Contact:** Dan Sadler  
(801) 268-1395

D & M SYSTEMS, INC.  
986 Atherton Drive, Suite 201  
Salt Lake City, UT 84123



**CAS.4 (Payroll)****PDP-11 Operating System:** CTS-300, RSTS**Keywords:** • Employment • Payroll • Taxes

This module, which may be integrated with general ledger, consists of employee file maintenance, alphabetical employee list, time entry, pre-calculated and adjustment entry, income and withholding calculation, check writing, employee earnings reports, monthly and quarterly reports, and W-2s. CAS.4 allows tailorable interface with general ledger, with multiple distributions of gross pay and deductions, multiple- or single-branch support, exclusion of sick pay from FICA, employee numbering format, and labor distribution format.

Departments may be defined by collective or individual branches, with full detail and summary reporting for each payroll period. Fifteen employee deductions in addition to government deductions are provided, with the first five retaining totals on month to date, quarter to date, and year to date. Those deductions can be dollar amounts or percentages of gross pay or hours and may be withheld at different payroll intervals. Federal and state withholding tax tables, FICA withholding rate/limit, annual exemption amount, and federal and state unemployment rate/limit are user maintained and accessible through menu selection.

Simultaneous pay periods based on weekly, biweekly, semimonthly, and monthly are all supported. Hire date, termination date, last raise date, base pay for salary, city tax withholding, and additional federal, state, city withholding, vacation, and sick pay are all provided with this module.

A version of this product is available for VAX computers.

**Price:** \$695 - \$1640**Contact:** Dan Sadler

(801) 268-1395

D &amp; M SYSTEMS, INC.

986 Atherton Drive, Suite 201

Salt Lake City, UT 84123

**CAS.5 (Inventory Management)****PDP-11 Operating System:** CTS-300, RSTS**Keywords:** • Inventory

This module consists of inventory item maintenance, item receiving entry, adjustments entry, price change, count physical inventory, stock inquiry, stock status, and stock valuation. CAS.5 allows tailorable interface with general ledger, purchasing, procurement planning, order entry/invoicing, buyer codes, commodity codes, selling price rule codes, unit of measure codes, and branch transfer markup. CAS.5 distinguishes among stock and nonstock items and sundry items. The user may suggest alternative items for out-of-stock items. Sales history by item can be accumulated as well. If purchasing is integrated, receivings updates open purchase orders. If procurement planning is

integrated, stock needs can be projected based on up to 18 months of prior history. If desired, CAS.5 can be a stand-alone module without order entry invoicing, using receivings and adjustments to reflect inventory fluctuations.

A version of this product is available for VAX computers.

**Price:** \$695 – \$1640

**Contact:** Dan Sadler

(801) 268-1395

D & M SYSTEMS, INC.

986 Atherton Drive, Suite 201

Salt Lake City, UT 84123

### **CAS.6 (Order Entry/Invoicing)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Order processing

This module can optionally be interfaced with General Ledger and requires the Inventory Management and Accounts Receivable modules. The module handles order entry, order status, picking lists, invoicing, and back-order reporting. CAS.6 allows tailorable order number control; order-field defaults; codes for credit status, customer price, FOB, freight allowance, memo reason, price change reason, and shipped-via codes; and price rule tables.

Order Entry can be used to produce invoices at the user's option. If invoices are to be produced, a 2-step process, including picking lists, can be implemented; or, invoices can be produced, omitting the picking list function. In addition, a counter invoicing feature of Order Entry is available to create real-time invoices for a direct-sales environment. When orders are posted, general ledger, inventory management, accounts receivable, and sales analysis are automatically updated.

A version of this product is available for VAX computers.

**Price:** \$695 – \$1640

**Contact:** Dan Sadler

(801) 268-1395

D & M SYSTEMS, INC.

986 Atherton Drive, Suite 201

Salt Lake City, UT 84123

### **CAS.7 (Purchase Order)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Purchasing

This module, integrated with Inventory Management through receivings, consists of a purchasing advice report, purchase order entry, a purchase order status report, purchase order printing, and purchase order back-order reporting. CAS.7 includes a vendor purchase advice that scans the inventory, printing suggested order quantities, based on stock level, quantity on order, quantity in transit, quantity committed, and order point. Purchase orders are maintained by purchase order



number; the information required includes buyer, vendor, terms, ship-by date, cancel-by date, and detailed specifics on items being ordered.

The Inventory Management Receivings module updates open purchase orders as stock is received.

A version of this product is available for VAX computers.

**Price:** \$695 - \$1640

**Contact:** Dan Sadler

(801) 268-1395

D & M SYSTEMS, INC.

986 Atherton Drive, Suite 201

Salt Lake City, UT 84123

### **CAS.8 (Sales Analysis)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Sales analysis

This module provides customer analysis reports from the Accounts Receivable module and item analysis from Inventory Management. CAS.8 interactively queries for information to be included in the report by a range of information that may be in the file and allows the order sequence of the report to be selected and subtotaled within the selections.

A version of this product is available for VAX computers.

**Price:** \$695 - \$1640

**Contact:** Dan Sadler

(801) 268-1395

D & M SYSTEMS, INC.

986 Atherton Drive, Suite 201

Salt Lake City, UT 84123

### **Chariot**

**PRO Operating System:** XENIX™

**Keywords:** • Application development • Distribution

Ideal for VARs, Chariot is a family of modifiable business applications software that runs on almost any machine using the UNIX\* operating system. Chariot's modular design allows customization to suit vertical market applications.

The accounting module offers excellent accounts payable, accounts receivable, and general ledger functions. The distribution module includes sales analysis, inventory, and sales order processing.

HCR also has a complete line of systems products, including compilers, programming languages, and productivity tools.

XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Lorraine Hemond

(416) 922-1937

**HUMAN COMPUTING RESOURCES CORP.**

10 St. Mary Street, 4th Floor  
Toronto, Ontario M4Y 1P9 Canada

**Client Accounting**

**PDP-11 Operating System:** TSX-PLUS™

**Keywords:** • Scheduling

A client accounting application is typically used by CPA and PA firms to do the bookkeeping for their clients. This program contains a large chart of accounts with subledgers and profit centers and also handles scheduling and source and application of funds. The system accommodates an after-the-fact payroll of up to 30 employees for a small business and prints 941 and W-2 reports from this after-the-fact payroll.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$3000

**Contact:** Sam Wingate, Vice President  
(813) 935-8844 or 935-8951

**AUTOMATION RESOURCES CORP.**

2901 W. Busch Boulevard, Suite 309  
Tampa, FL 33618

**Client Write-Up**

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS

**Keywords:** • General ledger • Payroll • Report writer  
• Spreadsheets

This system is a combination of the General Ledger and the Accountant's Payroll systems. Client Write-Up allows the user to post general ledger entries and payroll checks in the same posting session. Other user-oriented features include:

- A financial statement generator that allows many types of user-designed financial statements to be produced for any date range
- Payroll information stored by employee for quarterly reports and W-2s
- Automatic recurring entries based on constant dollar amounts or percentages of account balances
- An audit trail for all entries provided by transaction journals
- A detail posting collapse feature that does not hinder the ability to make prior-period adjustments or to obtain prior-period financial statements
- A spreadsheet interface for detailed financial analysis
- An unlimited number of clients with different charts of accounts and financial statements allowed in the same system
- A password security system
- Interfaces to Accounts Payable, Accounts Receivable, and Fixed Assets systems; other complementary products include the Job Cost, Order Entry, and Inventory Control systems



Financial statements include multiple balance sheets and income statements and a statement of changes, ratio and asset analyses, disclaimer letters, and many other user-defined financial statements. Reports include a chart of accounts listing, general ledger detail, trial balances, recurring allocation and standard journal listings, and user-designed quarterly reports and W-2s.

The General Ledger and Accounts Payables user's guides include information for the office manager, the terminal operator, and the application supervisor. The reference manuals provide information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$2800 - \$11,000

**Contact:** Sales Department  
(806) 792-3785

COMPU-SHARE, INC.  
3824 50th Street  
Lubbock, TX 79413

### **Clover Personal Income Tax Package**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts payable • Fixed assets • Taxes

This personal tax-processing system, developed by Mini Systems Inc., prepares federal income tax returns. Input is provided from interviewer forms completed by the tax preparer and is entered on line by the system operator. The system calculates and prints most tax schedules. The following federal forms and schedules are printed: A, B, C, D, E, F, G, R, SE, W, 2106, 2119, 2210, 2441, 3468, 3903, 4136, 4562, 4684, 4797, 4952, 4972, 5695, 6251, 6252, Office in Home Statement, Education Expenses Statement, Miscellaneous Income, and 1040 and 1040-ES. Diagnostic reports, taxpayer letters, and invoices are also prepared. Forms are annually approved by the IRS.

The corresponding forms and schedules are also available for the California State Personal Income Tax Package. Annual updates are available.

**Price:** \$2500

**Contact:** Gerald E. Rooney  
(415) 443-3473

CLOVER SYSTEMS AND SOFTWARE  
768 Avalon Way  
Livermore, CA 94550

## Complete Accounting Package

**PDP-11 Operating System:** RSTS

**Keywords:** • Cost accounting • General ledger • Payroll  
• Sales analysis

This integrated accounting package consists of accounts payable, accounts receivable, sales order, job cost, inventory, payroll, and general ledger. The system interfaces with the NMI Circulation Management package, the NMI Personnel Searcher package, and the NMI Specialty Manufacturing package. Internal features of the system include multiple warehouse facilities in inventory, credit card transactions in sales order, flexible discount tables in accounts receivable, a complete purchase order utility in accounts payable, and the temporary payroll/integrated billing module in payroll.

**Price:** \$1995

**Contact:** Angus Murphy  
(215) 822-2407

NORTON-MURPHY INTERNATIONAL, INC.  
176 Chalfont Road  
Chalfont, PA 18914

## CopyCalc

**PDP-11 Operating System:** RSTS

**Keywords:** • Spreadsheets

CopyCalc is an electronic spreadsheet system featuring forward-looking and immediate calculations, increment summations, sort, report writing, forms processing, direct data management file interfaces, and worksheet consolidation. CopyCalc allows users to do forecasting, construction bidding, analysis, statistical reporting, and so forth. Options include the POISE DMS Interface and simplified user entry that prevents worksheet modifications other than data entry.

The report-writing feature provides boardroom-quality reports directly from your worksheet. Multiple copies can be produced with headings centered over the worksheet reports. The forms-processing feature allows information in a worksheet to be printed into prewritten letters with critical calculations done from within CopyCalc.

CopyCalc's direct data management file interfaces allow information on your system to be moved into CopyCalc's worksheet system. CopyCalc can consolidate the information of many worksheets into a summary worksheet through command files that are built and edited from inside CopyCalc.

CopyCalc's help system allows you to get help during a worksheet session. That help system provides a graphic layout of the numeric keypad and details the use of the special functions keys. CopyCalc is extensively documented, with a complete lesson guide and a reference manual.



CopyCalc is a licensed product. Included in the standard CopyCalc software package is an ASCII file interface. Additional file interfaces can be purchased separately.

CopyCalc's demonstration tape, which can be purchased for \$100, provides a 30-day trial use on your system. The fee can be applied toward the purchase price if a purchase order is received within 60 days of the demonstration order. For distribution on media other than magnetic tape, please call for price and availability.

CopyCalc runs on DIGITAL computers under RSTS/E and with VT100-compatible terminals.

**Price:** \$1500 - \$3000

**Contact:** Lynda Swift, Sales  
(805) 327-2118

ADVANCED DATA SUPPORT SYSTEMS, INC.  
217 Mt. Vernon Avenue, Suite 1  
Bakersfield, CA 93307

### CPA Payroll

**PDP-11 Operating System:** CTS-300, RT-11

**PRO Operating System:** RT-11

**Keywords:** • Payroll

This multiclient payroll system provides all the processing and reporting required for CPA check writing. The system features an easy-to-use data entry sequence. The sequence permits data entry from turn-around documents or directly from telephone instructions, which eliminates the need to manually write data on a source document.

A version of this product is available for VAX computers.

**Price:** \$3000

**Contact:** David L. Ley  
(313) 855-6181

RADLEY BUSINESS COMPUTERS  
7071 Orchard Lake Road, Suite 305  
W. Bloomfield, MI 48033

### CPA Time and Billing

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11,  
TSX-PLUS™

**Keywords:** • Billing • Scheduling

This program permits simple data entry, work in process by billing person, variable rates, client billing, aged accounts receivable, and partner management reports through a comprehensive system. The program includes features not found in other systems.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$3000

**Contact:** Sam Wingate, Vice President  
(813) 935-8844

AUTOMATION RESOURCES CORP.  
2901 W. Busch Boulevard, Suite 309  
Tampa, FL 33618

### **CSI Accounts Payable**

**PDP-11 Operating System:** RSX

**Keywords:** • Accounts payable • Purchasing

This program includes an alphabetical listing of up to 500 vendors, with total year-to-date purchases and balances due, and handles up to 400 active vouchers. The program selects deferred payments and creates a cash-requirements report for up to 1000 payments, checks, and a check register. The package may be purchased on a stand-alone basis or as an integrated part of CSI's Business System.

**Price:** \$1500

**Contact:** Madelyn Scheer  
(608) 258-8668

CREATIVE SOFTWARE INC.  
P.O. Box 3493  
Madison, WI 53704

### **CSI Business System**

**PDP-11 Operating System:** RSX

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Payroll

The expandable CSI Business System, which allows both multidepartment and multicompny businesses, includes Payroll, Accounts Payable, Accounts Receivable, and General Ledger, with all data posted to General Ledger. The system permits an unlimited number of transactions, entries, or departments. The user-oriented, multiterminal system is designed for small to medium-size businesses and is set up in house. Modules may be used stand alone.

**Price:** Available upon request

**Contact:** Madelyn Scheer  
(608) 258-8668

CREATIVE SOFTWARE INC.  
P.O. Box 3493  
Madison, WI 53704

### **CSI General Ledger**

**PDP-11 Operating System:** RSX

**Keywords:** • General ledger • Office systems • Spreadsheets

This expandable system, which allows both multidepartment and multicompny businesses, produces operating statements, budget statements, and balance sheets from a transaction journal. The system permits an unlimited number of transactions, entries, or departments. The package may be purchased on a stand-alone basis or as an integrated part of CSI's Business System.



**Price:** \$2000

**Contact:** Madelyn Scheer  
(608) 258-8668

CREATIVE SOFTWARE INC.

P.O. Box 3493

Madison, WI 53704

### **CSI Payroll**

**PDP-11 Operating System:** RSX

**Keywords:** • Payroll

This program prints checks, stubs and check registers, W-2 forms, and yearly and periodic reports. Hourly or salaried employees in separate departments can be handled. Governmental deductions are user-updated, with three extra user-defined deductions. The package may be purchased on a stand-alone basis or as an integrated part of CSI's Business System.

**Price:** \$2000

**Contact:** Madelyn Scheer  
(608) 258-8668

CREATIVE SOFTWARE INC.

P.O. Box 3493

Madison, WI 53704

### **DDP APS (Accounts Payable System)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Accounts payable

APS, a comprehensive, menu-oriented, easy-to-operate, easy-to-learn package, operates on a single- or a multicompany basis. That allows APS to be used in a time-sharing environment, while maintaining the integrity of each company's file.

APS allows you to take a percentage or a dollar discount; offers automatic control of discounts-due dates, preediting of amounts to be paid automatically, and automatic preparation of checks and vouchers; allows open invoices to be aged by either invoice date or due date; allows you to write manual checks and enter the data to produce a check register and the expense distribution; and interfaces with the DDP Purchasing Control and General Ledger modules.

APS provides the following reports: check register, checks, edit listings, batch reports on input, distribution by vendor, aged trial balance, cash requirement, and distribution by G/L amount.

A version of this product is available for VAX computers.

**Price:** \$795 - \$3500

**Contact:** Gary L. Grierson  
(513) 236-7072

DAYTON DATA PROCESSING, INC.  
60 Heid Avenue  
Dayton, OH 45404

### **DDP ICSF (Inventory Control System)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Distribution • Inventory

This comprehensive menu-oriented, easy-to-operate, easy-to-learn system operates on a single- or a multicompany basis. Thus, the system can be used in a time-sharing environment, while maintaining the integrity of each company's files. This system is of special interest to companies dealing in food, meat, poultry, fish, paper, tobacco, candy, and chemicals.

The system manages inquiry, product sales, on order, returns, counts, receipt, restocking, price book, and out of stock by customer; offers 26 selling prices for each item; and provides truck load control — case/pack and weight/size/average. ICSF provides the following reports: product movement, stock receipt analysis, daily inventory adjustment, daily stock receipts, daily undershipped, daily lost profit, low stock, vendor list, on-order list, inventory status, product list, customer price list, and price changes.

A version of this product is available for VAX computers.

**Price:** \$795 — \$3500

**Contact:** Gary L. Grierson  
(513) 236-7072

DAYTON DATA PROCESSING, INC.  
60 Heid Avenue  
Dayton, OH 45404

### **DDP OEIF (Order Entry/Invoicing)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Billing • Distribution • Order processing  
• Sales analysis

This comprehensive order entry, invoicing, and sales analysis system operates with the Inventory Control System (ICSF) and the Accounts Receivable System (PAR). Menu orientation makes this system easy to learn and simple to use. OEIF operates on either a single- or a multicompany basis and therefore can be used in a time-sharing environment, while maintaining the integrity of each company's files. This system is of special interest to companies dealing in food, meat, poultry, fish, paper, and tobacco/candy.

OEIF features on-line credit and product-availability checks at entry time; 26 price schedules for each item; automatic invoicing, using automatic pricing, special pricing, and random weight; standard or 1-time messages; a leaker allowance that may be passed to retail accounts; drop charges based on minimum tonnage by customer; warehouse pick lists produced by warehouse slot number, by customer number, by



truck, or by route; load sheets indicating the cubic and tonnage capacity of the truck and whether multiple trucks are needed; and sales analysis by territory, account, or chain.

A version of this product is available for VAX computers.

**Price:** \$1595 – \$6995

**Contact:** Gary L. Grierson  
(513) 236-7072

DAYTON DATA PROCESSING, INC.  
60 Heid Avenue  
Dayton, OH 45404

### **DDP PAR (Accounts Receivable)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Accounts receivable • Billing • Distribution  
• Wholesale

This comprehensive, menu-oriented, easy-to-operate, easy-to-learn package operates on either a single- or a multicompany basis. That allows PAR to be used in a time-sharing environment, while maintaining the integrity of each company's file.

This package applies cash receipts on either a balance-forward or an open-item basis; establishes customer buying trends, credit history, and payment records; offers optional dunning or promotional messages; prints a detailed customer ledger showing activity for the calendar year; and allows a company to operate on a 12-month basis or thirteen 4-week accounting periods. PAR can forecast cash receipts based on a moving average collection period for each customer.

Reports available on demand include master file list, A/R aging, unearned discount, potential credit problems, sales journal, statements, customer ledger, cash forecasts, cash receipt journal, credit memo journal, and credit status.

A version of this product is available for VAX computers.

**Price:** \$795 – \$3500

**Contact:** Gary L. Grierson  
(513) 236-7072

DAYTON DATA PROCESSING, INC.  
60 Heid Avenue  
Dayton, OH 45404

### **DDP PAS (General Ledger)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Cost accounting • Financial analysis  
• General ledger

This series of interactive programs providing complete financial control operates on either a single- or a multiclient basis. That allows PAS to be used in a time-sharing environment, while maintaining the

integrity of each client's file. Menu orientation makes this system easy to learn and simple to use.

PAS flexibility allows the user to define 12 or 13 accounting periods and to use any numbering scheme that does not exceed six digits. PAS offers personalized report formats and titling, with reports printed on  $8\frac{1}{2}'' \times 11''$  paper; prints detailed or consolidated reports; permits profit center accounting with automatic consolidations; and provides the capability to compare budgets or the previous month's or year's figures.

PAS provides nine supporting journals; eight subledgers; up to eight management reports for each profit center, in any of six formats; general ledgers; trial balance; and edit reports.

A version of this product is available for VAX computers.

**Price:** \$795 - \$3500

**Contact:** Gary L. Grierson  
(513) 236-7072

DAYTON DATA PROCESSING, INC.  
60 Heid Avenue  
Dayton, OH 45404

### **DDP PAY (Payroll System)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Payroll • Personnel

This comprehensive menu-driven payroll package operates on either a single- or a multient basis and can be used in a time-sharing environment, while maintaining the integrity of each file. PAY interfaces to DDP's PAS, General Ledger, and Job Cost System. Both salaried and hourly employees can be processed on a weekly, biweekly, semi-monthly, or monthly basis. Ten types of hours may be entered with 10 corresponding rates for each type of hours. The system accepts tips, meals, bonus, commission, and other pay dollars. The normal check-writing and federal/state tax-reporting functions are provided with year-to-date and quarter-to-date registers, payroll journals, earnings, and labor distribution reports. Job information can be obtained through DDP's Job Cost System. That capability serves manufacturing, tool and die, job shop, and construction firms.

A version of this product is available for VAX computers.

**Price:** \$795 - \$5500

**Contact:** Gary L. Grierson  
(513) 236-7072

DAYTON DATA PROCESSING, INC.  
60 Heid Avenue  
Dayton, OH 45404



**DDP PCSF (Purchasing Control System)****PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11**Keywords:** • Distribution • Inventory • Order processing  
• Purchasing

This comprehensive, menu-oriented, easy-to-operate, easy-to-learn purchasing system operates on either a single- or a multicompany basis and therefore can be used in a time-sharing environment, while maintaining the integrity of each company's files. This system is of special interest to companies dealing in food, meat, fish, poultry, paper, tobacco/candy, and chemicals.

The system tracks inventory and noninventory items on order from suppliers. As purchase orders are entered, the program automatically produces the purchase order and simultaneously updates the inventory quantity on order. Management can inquire into the open file to determine what items are on order, with whom, the quantity on order, and the delivery date.

PCSF provides the following reports: purchase order receiving; purchase requirements; open purchase order; product listing; vendor/product listing; vendor history — TDY purchase, amount, and cost; daily lost income; product movement analysis — 4-week period; purchasing recap; stock receipt analysis; and low-stock report.

A version of this product is available for VAX computers.

**Price:** \$795 – \$1500**Contact:** Gary L. Grierson  
(513) 236-7072

DAYTON DATA PROCESSING, INC.

60 Heid Avenue

Dayton, OH 45404

**Depreciation Schedule****PDP-11 Operating System:** RSTS**Keywords:** • Calculation aids • Fixed assets

This system calculates depreciation on assets and is integrated to the standard G/L package. The package handles four types of depreciation — no depreciation, reducing balance, straight line, or sum of digits. Assets can be divided into "classes," and each class can have its own set of G/L codes for posting purposes.

**Price:** \$1000**Contact:** Marvin Gogal  
(403) 464-7121

DATA KEY LTD.

2107 87th Avenue

Edmonton, Alberta T6P 1L5 Canada

## **DIBS-11**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Payroll

**Memory required:** 256KB.

This multiuser wholesale distributor's accounting software package, written in DIBOL to run under the RSTS/E operating system, is comprised of four accounting modules: General Ledger, Accounts Receivable, Accounts Payable, and Payroll. DIBS-11 is designed as an integration of accounting modules when used with the DIBS-11 Account Group integrator. Each module can be integrated with the rest of the system for both data flow and data input verification.

DIBS-11 is a base on which to build vertical market accounting packages. DIBS-11 is divided into software routines by function, facilitating maintenance and modification. The system uses the standard menu driver subsystem and routines. The Account Group subsystem provides a method for sending data to the General Ledger module without manual journaling.

The installer must have a working knowledge of the RSTS/E operating system and utilities, DIBOL, and accounting to correctly install and customize the package.

Refer to SPD #13.31.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$125 - \$625

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **DIBS-11 Order Entry/Inventory Management for CTS-300**

**PDP-11 Operating System:** CTS-300

**Keywords:** • Application development • Inventory  
• Order processing • Wholesale

DIBS-11 is a multiuser wholesale distributor's accounting software package written in DIBOL. The product is not intended to be a turnkey package but rather a base on which to build vertical market accounting packages.

This module requires the DIBS-11 Accounts Receivable module, which is a portion of DIBS-11/CTS-300 (SPD #12.34.xx). If DIBS-11 Order Entry/Inventory Management is to be used with other DIBS-11 modules, they must be at the same version as well.

The product uses the standard DIBS-11 menu subsystem and routines. Also, the Account Group subsystem provides a method for sending data to the General Ledger from individual modules without manual journaling. The standard maintenance programs and tables (parameters, defaults, and verification for nonintegrated systems) are used.



The DIBS-11 system requires that the installer have a working knowledge of the CTS-300 operating system and utilities, DIBOL, and accounting to correctly install and customize the package.

Refer to SPD #12.73.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$125

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **DIBS-11 Order Entry/Inventory Management for RSTS/E**

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Inventory  
• Order processing • Wholesale

DIBS-11 is a multiuser, wholesale distributor's accounting software package written in DIBOL to run under the RSTS/E operating system. This product is not intended to be a turnkey package but rather a base on which to build vertical market accounting packages.

This module requires the DIBS-11 Accounts Receivable module, which is a portion of DIBS-11/RSTS/E (SPD #13.31.xx). If DIBS-11 Order Entry/Inventory Management is to be used with other DIBS-11 modules, they must be at the same version as well.

The product uses the standard DIBS-11 menu subsystem and routines. Also, the Account Group subsystem provides a method for sending data to the General Ledger from individual modules without manual journaling. The standard maintenance programs and tables (parameters, defaults, and verification for nonintegrated systems) are used.

The DIBS-11 system requires that the installer have a working knowledge of the RSTS/E operating system and utilities, DIBOL, and accounting to correctly install and customize the package.

Refer to SPD #13.28.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$125

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **DIBS-11/CTS-300**

**PDP-11 Operating System:** CTS-300

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Payroll

This multiuser wholesale distributor's accounting software package, written in DIBOL, is comprised of four modules: General Ledger, Accounts Receivable, Accounts Payable, and Payroll. DIBS-11 is designed as an integration of accounting modules when used with the DIBS-11 Account Group integrator. Each module can be integrated with the rest of the system for both data flow and data input verification.

DIBS-11 is a base on which to build vertical market accounting packages. DIBS-11 is divided into software routines by function, facilitating maintenance and modification. The system uses the standard menu subsystem and routines. The Account Group subsystem provides a method for sending data to the General Ledger module without manual journaling.

The installer must have a working knowledge of the CTS-300 operating system and utilities, DIBOL, and accounting to correctly install and customize the package.

Refer to SPD #12.34.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$125 - \$625

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Due-Date Monitoring**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Management • Office systems • Report writer  
• Scheduling

This system enables an accounting firm to track engagements. The system provides a wide variety of free-formatted reports showing which engagements are coming due for any given client or responsible employee. The system features reports by office, client, or engagement of employee designation; user-definable sort codes; starting-date specification; estimated completion time; responsible-party designation; and automatic or user-defined report-formatting capability.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls  
(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL  
114 E. Gregory Street  
Pensacola, FL 32501

### **Evets Accounting Systems**

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Cost accounting • General ledger  
• Menu handlers • Query facilities

Memory required: 50K.

The menu-driven modules handle sales and bought ledger accounts from entry of invoices and cash/discounts through to production of analysis reports and statements with comprehensive inquiry/report facilities. The bought ledger also can hold "payment by" dates for the production of preprinted checks/remittance advices. Automatic transfer of nominal analyses from these or any other of Evets's ledgers or entry from manual ledgers is possible into the general ledger (and job costing subsystem for nominated account codes) for production of trial



balance and management accounts reports, as well as the optional job work-in-progress report, which can also update WIP accounts in general ledger automatically.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$2000/module – \$6000/module

**Contact:** S. J. Haseldine

—  
EVETS COMPUTERS LTD.  
123 – 125 Green Lane  
Derby DE1 1RZ England

### **FACS — Accounts Payable**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Forecasting

This on-line, fully interactive accounts payable system is functioning in such industries as construction, newspapers, and financial services. The package features direct interface to FACS G/L and Job Costing and to the subcontractor's reporting system; daily invoice input and selective payment control; distribution of invoices to multiple jobs, departments, and cost description codes; date of discounts and daily monitoring of future discounts to be taken; cash requirements forecasting; and immediate supplier status lookup.

Reporting features include check and optional overflow remittance advice printing; an open-accounts payable report; reporting and payment of accounts payable by supplier, job, department, discount date, or any other desired option; monthly and annual accounts payable ledgers; and user-defined reports for history of purchases and payments to suppliers. All reports can be printed to the screen or to a hard-copy device.

A version of this product is available for VAX computers.

**Price:** \$1200 – \$4500

**Contact:** Steven L. Buth

(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.

West 915 Second Avenue

Spokane, WA 99204

### **FACS — Accounts Receivable/Sales Analysis**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Audit • Sales analysis

This package for both balance-forward and open-item accounts receivable customers operates stand alone or with the FACS General Ledger system. Features include direct interface to FACS Inventory and Order Entry for complete A/R and sales analysis reporting; user-defined fields used with sales analysis; user-defined product codes and period

sales analysis, such as month to month, this month this year compared to this month last year; automatic service charge calculation; screen display for customer inquiry; and invoices, memos, adjustments, and payments that are entered into the system, using the same input screen.

Reporting features include user-defined reports for both the Product Master and Customer Master files, as well as a user-defined report for all receivable transactions; customized invoices and statements, with custom messages printed for special statements; aged trial balance available for all customers, a range of customers, or by customer type; and user-defined sales analysis reports. All reports can be printed to the screen or to a hard-copy device.

A version of this product is available for VAX computers.

**Price:** \$1200 - \$4500

**Contact:** Steven L. Buth

(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.

West 915 Second Avenue

Spokane, WA 99204

## **FACS — Fixed Asset Management**

**PDP-11 Operating System:** RSTS

**Keywords:** • Fixed assets • Forecasting • Spreadsheets

This accounting system features direct interface to FACS G/L; four depreciation schedules for each asset; the ability to trace by serial number each asset's location by state and to track date in service, date acquired, date sold, and date retired; 10 depreciation methods; automatic switch method computations; the ability to track acquisition cost, salvage value, fair market value, appraised value, insurance value, and book value; the ability to track first-year bonus or expense costs; full ITC calculations; and depreciation forecasting for single assets, groups of assets, or complete schedules.

Reporting features include a depreciation worksheet; user-defined fixed asset, depreciation, and general ledger reports; monthly and annual depreciation schedules; a spreadsheet expense report for all four depreciation schedules; a schedule for untracked assets; and an amortization schedule. All reports can be printed to the screen or to a hard-copy device.

A version of this product is available for VAX computers.

**Price:** \$1200 - \$4500

**Contact:** Steven L. Buth

(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.

West 915 Second Avenue

Spokane, WA 99204



**FACS — General Ledger/Job Costing****PDP-11 Operating System:** RSTS**Keywords:** • General ledger

This package offers flexible financial reporting to a wide variety of end users. A system set-up routine allows users to choose features. The system features direct interface to FACS A/P and FACS Fixed Assets; subsidiary balances for each G/L account; a balance-to-date system that allows subsidiary balances to be carried across fiscal years; branch accounting with consolidation; automatic verification for G/L account, subaccount, branch, profit center, and cost center; out-of-balance protection; automatic journal entries; batch input controls; and integration to financial modeling for "smart budgeting" and other forecasting requirements.

Reporting features include a generalized report writer that allows users to define and store report types sorted, selected, subtotaled, and totaled on any data field in the G/L; a worksheet with optional trial balance; a G/L transaction distribution and user-definable transaction summary; a user-definable balance-to-date report, as well as subsidiary ledger, budget, and trial balance reports; transaction journals; posting proofs; and general ledger and financial statements. The financial reporting model lets users design numerous reports. Several user-defined ledger options are available by G/L account, subaccount, branch, profit center, and cost center. All reports can be printed to the screen or to a hard-copy device.

A version of this product is available for VAX computers.

**Price:** \$1200 – \$4500**Contact:** Steven L. Buth

(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.

West 915 Second Avenue

Spokane, WA 99204

**FACS — Payroll****PDP-11 Operating System:** RSTS**Keywords:** • Payroll

This fully functional payroll reporting system is operating in a variety of industries, including construction, labor-intensive agricultural environments, wholesale/retail distribution, and restaurants. The system features complete integration to the FACS G/L and FACS Job Costing; automatic entry of employer and employee accruals in G/L; paychecks for hourly, piecework, and salaried employees in the same payroll run; daily or periodic input of employees' time cards; time card input distributed by multiple jobs, departments, and payroll cost descriptions; automatic earnings and deductions (FICA, federal, and state withholding, unemployment, workmen's compensation, industrial insurance, and so on); multiple-state income tax withholding

capabilities; user-defined earnings and additional deduction codes; union information; and employee profile information.

Reporting features include payroll entry proof reports, check calculation and printing, an employer's tax deposit report and a quarterly report for the employment security department, a general ledger payroll distribution report, certified payrolls, union reports, and W-2 forms. All reports can be printed to the screen or to a hard-copy device.

A version of this product is available for VAX computers.

**Price:** \$1200 - \$4500

**Contact:** Steven L. Buth

(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.

West 915 Second Avenue

Spokane, WA 99204

### **FIFO: FIFO Inventory**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Billing • Inventory • Order processing  
• Purchasing

This first-in, first-out inventory system with open-item payable and receivable, general ledger, payable check writing, order entry, purchasing, and manufacturing uses a bill-of-materials file to produce work orders and picking lists. Order entry and purchasing can be done for both stock and nonstock items. The actual and estimated costs of inventory items are tracked throughout the system. The cost compiler adjusts the inventory, general ledger, and WIP when estimate costs become actual. This system has report formats, on-line queries, and multiuser capabilities and is screen formatted for VT100-compatible terminals.

**Price:** \$20,000

**Contact:** Marvin Gogal, Branch Manager

(403) 464-7121

DATA KEY LTD.

2107 — 87 Avenue

Edmonton, Alberta T6P 1L5 Canada

### **Fiscal Accounting**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Accounts receivable  
• Education • General ledger

Memory required: 28K.

This fully accrued and encumbered system of accounting consists of two subsystems — accounts payable and general ledger reporting. The accounts payable package includes the normal accounts payable functions; the general ledger package includes the printing of the general ledger and various forms of budget and expenditure reports.



The Fiscal Accounting package, primarily a conversion of a similar package developed for an IBM 1401, is therefore card input-oriented. However, that is the only use of cards; the input programs could easily be modified for terminal input. All sorting and data manipulation are done on the disks, and output is to either the disks or the line printer. The equipment necessary for the cards is a keypunch and a punched-card reader for the PDP-11. The package is written in the RSTS V4A-12 BASIC-PLUS language.

A third package, Payroll, can be used with the other packages. The payroll package, DECUS number 11-33, is based on the same system of accounting. The entire system is based on double-entry bookkeeping. The Fiscal Accounting packages, however, stand alone without the payroll package.

The accounting system is based on a 16-digit general ledger account number. The account number contains, in a more concise form, most of the information recommended by the *Federal Handbook II* for school fiscal accounting. DECUS number 11-160.

Note: One DECTape is documentation.

Price: \$5 - \$225

Contact: DECUS (see Introduction)

### **Fixed Asset Accounting**

**PDP-11 Operating System:** CTS-300

**Keywords:** • Calculation aids • Fixed assets  
• Property management

This comprehensive free-standing module of programs enables you to keep an inventory of your property items and to calculate depreciation for them by the following depreciation methods: straight line, double-declining balance, 150% declining balance, and a sum of the years' digits. In addition, items that are not to be depreciated can be kept in the system. Additions (capital improvements) or deletions (partial sales or group items) can be shown as separate detail items with asset numbers and can have different depreciation methods or different lives (can be partial-year lives).

New assets are entered monthly or at the end of the fiscal year. Depreciation for the current fiscal year is calculated after posting new assets. A fixed-assets register is printed for those new items, followed by a departmental summary showing the amount of depreciation to be journalized for each period in the current fiscal year (13-period fiscal years are supported, if desired).

At the close of the fiscal year, after all new assets have been processed, depreciation is calculated for the next fiscal year. A fixed-assets register and departmental summaries are printed. Items that should be reclassified from accelerated depreciation to straight line are flagged on the fixed-assets register for management review.

**Price:** \$1500 - \$2000

**Contact:** Robert J. Steinis  
(203) 378-6010

FOOD DISTRIBUTOR SYSTEMS, INC.  
959 Main Street  
Stratford, CT 06497

### **Fixed Asset Depreciation**

**PDP-11 Operating System:** RSTS

**Keywords:** • Financial analysis • Fixed assets • Report writer  
• Taxes

This easy-to-use on-line system handles five depreciation methods: straight line, declining balance, double-declining balance, sum-of-years digits, and ACRS. The system includes 1983 tax law changes, calculates investment tax credits and investment tax credit recapture of relevant assets, creates monthly journal entries that stand alone or interface to General Ledger, maintains both book and tax depreciation, allows automatic conversion from accelerated depreciation methods to straight line, and handles full or partial disposals.

A report writer produces user-designed reports, as well as year-to-date fixed asset analysis, detailed reports by location, asset traffic report, insurance value report, annual depreciation report for income tax purposes, investment tax report, investment tax recapture report, and yearly disposal report.

The table-driven software allows multiple operators, entry validation, and 2-word password security.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$6000

**Contact:** Linda M. Wingfield, Software Product Manager  
(919) 766-0571

RESOURCE SYSTEMS CORP.  
P.O. Box 1546  
Clemmons, NC 27012

### **Fixed Assets**

**PDP-11 Operating System:** RSTS

**Keywords:** • Financial analysis • Fixed assets • Taxes

The ADD Fixed Assets package is an integral part of the ADD Financial Management package. The package automatically computes depreciation, using any of the standard methods — straight line, double-declining balance, 150% declining, and the new ACRS formulas.

Assets are grouped and reports can be generated by division, company, location, ledger code, depreciation method, and more. In addition, the system can automatically generate journal entries on a monthly or a



yearly basis in a mode suitable for direct automatic entry into the ADD General Ledger package.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$4000

**Contact:** Bruce A. Bott, President  
(201) 584-4026

ADVANCED DIGITAL DATA, INC.  
354 Route 206  
Flanders, NJ 07836

## Fixed Assets

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS

**Keywords:** • Financial analysis • Fixed assets • Taxes

This system features detailed depreciation calculations for all assets for any depreciation period specified by the user. Depreciation methods include ACRS, ACRSL, ACRS for low-income housing; straight line, 200%, 150%, and 125% declining-balance methods; sum-of-the-years' digits; and units of production. Other features include:

- User-defined asset codes with up to 15 characters and 3 user-defined fields for additional asset information
- A book, tax, or other (for state use) depreciation ledger or up to all three ledgers for each asset
- Reports for an unlimited date range and user-defined property tax and insurance reports
- Bonus depreciation, added-value, and added-life calculations
- Investment tax credit, including the 50% of ITC reduction for depreciation, and investment tax credit recapture calculations
- Asset history kept for each asset, including maintenance expenses, location changes, and retirement information
- Projected depreciation for up to five methods, with depreciation method changes
- Optional automatic change to straight-line from declining-balance methods
- An audit trail for all entries provided by transaction journals and change logs
- On-line help text to provide additional information
- A password security system
- Interfaces to General Ledger; other complementary products includes Accounts Payable, Accounts Receivable, Payroll, Job Cost, Order Entry, and Inventory Control systems

Reports include depreciation schedules, asset listings, a book/tax comparison, projected depreciation, asset history, retirement reports, investment credit and investment credit recapture reports, and property tax and insurance reports.

The user's guide includes information for the office manager, the terminal operator, and the application supervisor. The reference manual

provides information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$1200 – \$6500

**Contact:** Sales Department  
(806) 792-3785

COMPU-SHARE, INC.  
3824 50th Street  
Lubbock, TX 79413

### Fixed Assets

**PDP-11 Operating System:** RSTS

**Keywords:** • Fixed assets

This system provides all the forms, programs, and procedures necessary to perform the fixed-assets function. Menu orientation makes this system easy to learn and simple to use. With the system's effective error reporting and interactive editing of input information, most errors can be identified and corrected before reaching the main system.

Reviewed annually by outside accountants, this system has a complete, easy-to-follow audit trail and is continually kept up to date. Comprehensive reporting includes depreciation comparisons and forecasts; registers for acquisitions, disposals, and transfers; ledger depreciation distribution reports; and numerous depreciation reports.

The program can be run stand alone or can be interfaced with a companion general ledger system. The documentation includes detailed operating procedures, flow diagrams, file layouts, report samples, program operating instructions, and a dictionary of data and terms used in the system. Complete support and training are available.

A version of this product is available for VAX computers.

**Price:** \$2500 – \$3500

**Contact:** Sharen Robinson, Sales Assistant  
(219) 935-5121

PLYCOM SERVICES, INC.  
P.O. Box 160  
Plymouth, IN 46563

### Fixed Assets and Depreciation

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**Keywords:** • Fixed assets • Property management

This system, developed by MCBA/CSA, allows for both book and tax depreciation; supports nine accounting methods, including ACRS; supports bonus depreciation and expensed amounts; provides for tracking and maintenance of investment tax credits; provides for retirement of assets and automatic ITC recapture; projects depreciation amounts for all depreciation methods; provides the ability to separate an asset from



a group of assets; and produces 16 registers, depreciation reports, and analysis listings. The software interfaces to CSA's General Ledger package.

A version of this product is available for VAX computers.

**Price:** \$2100 - \$2310

**Contact:** William Ferris  
(203) 735-1819

COMPUTER SOFTWARE ASSOCIATES  
366 Main Street, P.O. Box 492  
Ansonia, CT 06401

### **Flexware Accounting Package**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Spreadsheets

**Memory required:** 256K RAM.

This mature, comprehensive, and fully integrated general accounting system provides a totally consistent operator interface, elaborate help information, and careful editing of data that prevents most bad data from getting into the system. The system supports both logical and remote access; can be quickly and easily customized to meet your individual requirements and international standards; has true multiuser capability, with file and record locking; provides a built-in, flexible data base; automatically handles multiple companies and departmental accounting; provides extensive on-line help, automatic cross-referencing, graphics options, windows, and a user-friendly report writer and query processor; runs on most hardware; provides data access through a spreadsheet program; and provides elaborate data security down to the field level.

The system includes general ledger, accounts receivable, order processing, spreadsheet, sales analysis, inventory, accounts payable, purchasing, payroll, and job costing. Data entered into one system is automatically carried over into the other relevant systems, minimizing data entry and data inconsistencies.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.  
15404 E. Valley Boulevard  
Industry, CA 91746

### **Flexware Accounts Payable**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Accounts payable • Forecasting

Memory required: 256K RAM.

This system is designed to increase profits through reduced labor involvement in processing payables and to improve cash-flow forecasting and vendor discount processing. Accounts Payable integrates with General Ledger or can operate stand alone. Flexware Accounts Payable provides such time-saving features as recurring-payment processing, agings, 1-time vendor processing, and check printing.

The system can be quickly and easily customized to meet your individual requirements and international standards; provides true multi-user capability, with file and record locking; has a built-in, flexible data base; automatically handles multiple companies and departmental accounting; provides data access through a spreadsheet program, extensive on-line help, automatic cross-references, a user-friendly report writer and query processor, a graphics option, and windows; runs on most hardware; and provides elaborate data security down to the field level.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.  
15404 E. Valley Boulevard  
Industry, CA 91746

### **Flexware Accounts Receivable**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Accounts receivable • Order processing  
• Report writer • Spreadsheets

Memory required: 256K RAM.

This system can be used by itself, with invoices entered manually, or with the Flexware Order Processing System, for automatic invoice generation. In either situation, the General Ledger update is automatic. System features include open-item tracking; instant inquiry and update of account status, general ledger account number validation; multiple ship-to addresses; partial payments; automatic statements and dunning notices, if desired; automatic recurring entry processing; order discounts; and extended descriptions. Sales analysis is included.



This system can be quickly and easily customized to meet your individual needs and international standards; provides a true multiuser capability, with file and record locking; has a built-in, flexible data base; automatically handles multiple companies and departmental accounting; provides data access through a spreadsheet program, extensive on-line help, automatic cross-references, a user-friendly report writer and query processor, a graphics option, and windows; runs on most hardware; and provides elaborate data security down to the field level.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.  
15404 E. Valley Boulevard  
Industry, CA 91746

### **Flexware General Ledger**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Financial planning • General ledger  
• Spreadsheets

Memory required: 256K RAM.

Flexware General Ledger can operate stand alone or be integrated to other Flexware applications. Detailed or summarized reports can be generated by GL or flow into the system from the other applications. Data from the Flexware Spreadsheet program can be accessed. A special report writer allows the user to create financial reports and to add them to the system for future use. Features of the system include multicompany accounting, standard and user-defined financial statements, comparisons to previous years, account number validation, up-to-the minute financial status, and trial close. Flexware General Ledger allows many concurrent users on either a multiuser computer system or a local area network. Flexware General Ledger provides help information to simplify use and guide the inexperienced operator.

This system can be quickly and easily customized to meet your individual requirements and international standards; provides true multiuser capability, with file and record locking; has a built-in, flexible data base; automatically handles multiple companies and departmental accounting; provides extensive on-line help, automatic cross-references, a user-friendly report writer and query processor, a graphics option, and windows; runs on most hardware; and provides elaborate data security down to the field level.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.

15404 E. Valley Boulevard

Industry, CA 91746

### **Flexware Inventory Control**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Inventory

Memory required: 256K RAM.

This system gives management the information it needs to optimize inventory levels. The system can interface directly to the Flexware Purchasing and Order Processing systems. Features include individual item tracking; tracking by product class and inventory category; part number cross-reference; receipt, sale, and adjustment processing; reorder recommendation processing; and support of multiple prices. Parts can be identified as assemblies or as subassemblies, with a limited bill-of-materials being produced.

The system can be quickly and easily customized to meet your individual requirements and international standards; provides a true multi-user capability, with file and record locking; has a built-in, flexible data base; provides data access through a spreadsheet program; automatically handles multiple companies and departmental accounting; provides extensive on-line help, automatic cross-references, a user-friendly report writer and query processor, a graphics option, and windows; runs on most hardware; and provides elaborate data security down to the field level.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.

15404 E. Valley Boulevard

Industry, CA 91746

### **Flexware Order Processing**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Order processing • Sales analysis

Memory required: 256K RAM.

Flexware Order Processing reduces order-handling time and cost and improves order accuracy, credit extension, order status reporting, and inventory management. Features include instant update and inquiry



of customer status, reference to orders by customer, payment terms varied by customer, credit memo processing, credit limit checking, credit hold protection, reservation of inventory, back-order and noninventoried item processing, multiple warehouses, price lookup or special pricing, tax calculation, and optional production of both pick lists and packing slips. Flexware Order Processing is totally integrated with the Flexware Accounting System and includes the Flexware Sales Analysis System.

This system can be quickly and easily customized to meet your needs and international standards; provides true multiuser capability, with file and record locking; has a built-in, flexible data base, a graphics option, and windows; automatically handles multiple companies and departmental accounting; provides data access through a spreadsheet; provides elaborate data security down to the field level, a user-friendly report writer, and a query processor; and runs on most hardware.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.  
15404 E. Valley Boulevard  
Industry, CA 91746

### **Flexware Payroll**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Payroll

Memory required: 256K RAM.

The Flexware Payroll System provides comprehensive recording, processing, and analytical functions for managing a large or small payroll. Many functions are totally automatic, but manual overrides are available. The system handles hourly and salaried employees, with multiple pay rates for an employee; sick, vacation, and special pay; user-defined and standard deductions; variable pay frequencies; manual and voided check processing; advances and pay adjustments; commissions, special pay, and bonuses; quarterly and annual reports; W-2 printing; and sophisticated control over access to confidential data.

This system can be quickly and easily customized to meet your individual requirements and international standards; provides true multiuser capability, with file and record locking; has a built-in, flexible data base; automatically handles multiple companies and departmental accounting; provides data access through a spreadsheet program; provides extensive on-line help, automatic cross-reference, a user-friendly report writer and query processor, a graphics option, and windows; provides elaborate data security down to the field level; and is transportable to most hardware.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.  
15404 E. Valley Boulevard  
Industry, CA 91746

### **Flexware Purchasing**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Purchasing

Memory required: 256K RAM.

This system interfaces with the Flexware Inventory System to control stock levels and ensure the timely delivery of needed material. The Purchasing system automatically produces recommended reorders but will allow manual overrides. System features include order and vendor status reporting, purchase order management, inventory reorder-point recommendations; item and vendor back-order tracking, and vendor analysis.

The system can be quickly and easily customized to meet your individual needs and international standards; provides true multiuser capability, with file and record locking; has a built-in, flexible data base; automatically handles multiple companies and departmental accounting; provides extensive on-line help, automatic cross-references, a user-friendly report writer and query processor, a graphics option, and windows; runs on most hardware; and provides elaborate data security down to the field level.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.  
15404 E. Valley Boulevard  
Industry, CA 91746

### **Flexware Spreadsheet**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Data base management • Data collection  
• Financial analysis • Spreadsheets

Memory required: 256K RAM.

FlexCalc, the powerful Flexware spreadsheet program, interfaces directly to the Flexware data base, where all the applications are



stored. The spreadsheet can be directly used for financial statements, financial projections, job cost, cash forecasting, and an unlimited number of other tasks.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause

(818) 961-0237

MICROFINANCIAL CORP.

15404 E. Valley Boulevard

Industry, CA 91746

### **FSG (Financial Statement Generator)**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Forms management • Report writer

FSG, an extension of the free-formatting capabilities that exist in the Client Accounting System, is designed to accommodate the complex, unusual reporting requirements of today's accountant. True free-formatting capability allows the user to design an entire report line by line. Data elements and the positioning, printing, and numerical treatment of each element are user defined.

Some highlights of the Financial Statement Generator are line-by-line report definition; line math capabilities (add, subtract, multiply, divide); unlimited totaling levels; use of constants and percentages for calculations, projections, allocations, and so on; horizontal and vertical spacing; floating "\$", "-", "()", and so on; nonnumerical printing of units; multiaccount positioning for each line; multidivisor specifications; and multiclient use of established formats.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls

(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL

114 E. Gregory Street

Pensacola, FL 32501

### **General Ledger**

**PDP-11 Operating System:** RSTS

**Keywords:** • Financial analysis • General ledger

The ADD General Ledger system allows the user to define a chart of accounts and financial reports. The system is automatically updated by other applications packages from ADD, such as Accounts Payable, Payroll, Accounts Receivable, and Fixed Assets.

The "compare" function allows the user to contrast any factors desired—for example, "current month to budget," "this month to last year," or "year to date to last year to date." In addition to financial reports, the

system produces worksheets, trial balance, journal of entries, and a detailed general ledger.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$6000

**Contact:** Bruce A. Bott, President  
(201) 584-4026

ADVANCED DIGITAL DATA, INC.  
354 Route 206  
Flanders, NJ 07836

### General Ledger

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • General ledger • Health care

This product is written in ANSI standard MUMPS and runs on a wide range of DIGITAL equipment, including micros, minis, and VAXs. This table-driven product provides multicompany general ledger capabilities and produces variable-format income statements, balance sheets, journals, accountant's worksheets, budget analysis statements, year-to-year comparisons, and so forth.

A version of this product is available for VAX computers.

**Price:** \$15,697 – \$73,658

**Contact:** Richard R. Brink  
(214) 422-1022

ANTRIM CORP.  
101 E. Park Boulevard, Suite 855  
Plano, TX 75074

### General Ledger

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11

**Keywords:** • General ledger

This menu-driven system has add, change, delete, and list modes and includes a report writer feature and chart of accounts maintenance. Comparatives or selected statistics can be reported monthly, weekly, or daily. Other features include 7-digit account numbers, the last three of which are subaccount numbers used for departments, profit centers, or different companies; recurring-entry registers; transactions compressions; automatic distributors; counterbalancing; and user-defined accounting periods. Running balances are kept and displayed for all entered transactions. General Ledger interacts with other Armadale business packages.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000

**Contact:** Michael G. Sifton  
(416) 477-8000



ARMADALE SYSTEMS INC.  
 Toronto Buttonville Airport  
 Markham, Ontario L3P 3J9 Canada

### General Ledger

**PDP-11 Operating System:** RSX

**Keywords:** • General ledger

This module maintains a master journal, subsidiary journals, and the status of each general ledger account and prints generalized financial statements. You can specify the contents and format of each line item in the statements. General Ledger offers a trial balance at any time; automatic posting (updating of account balances) at the end of each accounting period; up to 14 separate period budgets, along with a constant period budget and year budget; and multicompany processing, with the ability to produce consolidated financial statements.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Janna McMillan  
 (617) 275-5810

BREUER & CO.  
 54 Middlesex Turnpike  
 Bedford, MA 01730

### General Ledger

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**Keywords:** • General ledger

This system, developed by MCBA/CSA, allows you to define a fiscal year with 1 to 13 accounting periods; provides for maintenance of the chart of accounts, including the maintenance of budget figures; allows you to specify format, financial statements, and supporting schedules; processes journal entries and prints the general journal transaction register; prints the detailed general ledger report, the general ledger trial balance, the general ledger source code reference, and three source and application of funds statements; and allows transaction detail to be kept for an entire year. This software interfaces to five other CSA packages.

A version of this product is available for VAX computers.

**Price:** \$1700 - \$1870

**Contact:** William Ferris  
 (203) 735-1819

COMPUTER SOFTWARE ASSOCIATES  
 366 Main Street, P.O. Box 492  
 Ansonia, CT 06401

## **General Ledger**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Financial management • General ledger  
• Report writer

This package is based on a number of interrelated master files, current and historical transaction files, and an ID center file, which is used to support the multicompany/subsidiary concept. Master files, comprising the chart of accounts, store current year, last year, budget, and modeling balances as well as user-defined flags and codes, which permit flexible financial reporting. Transaction files retain all posting information and are used in both reports and screen inquiries. The ID center file is used to define the structure of the account number, such as company, division, or department, for a particular organization. The package features the handling of multiple companies, user-defined accounting periods, allowance of early entries and prior-period adjustments, supporting schedules, budgeting and modeling, financial reporting flexibility, allocation transactions, handling of recurring journal entries, comprehensive financial reporting, and the ability to interface with other accounting systems and store nonfinancial data.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$15,000

**Contact:** Tom Muskiluke  
(519) 893-4200

DIGITAL BUSINESS COMPUTERS  
133 Manitou Drive  
Kitchener, Ontario N2C 1L4 Canada

## **General Ledger**

**PDP-11 Operating System:** CTS-300

**Keywords:** • Financial analysis • General ledger

This comprehensive free-standing module of programs provides automatic financial reporting by presenting current and comparative financial information. Financial statements can be prepared on a departmental, consolidated, summary, or comparative basis. As an option, the General Ledger system can be automatically interfaced into the companion Accounts Payable system.

The system features single-source direct entry through CRTs, tutorial prompting for simplified operation, direct master file inquiry, and on-demand reporting. Through the use of formatting codes, each user can define the desired format of each financial report — for example, profit and loss statement, balance sheet, and supporting schedules.

General Ledger posting is accomplished by interactive CRT entry of account number (with automatic verification and display of account description), date, debit or credit amount, source (a 3-character abbreviation for the document or system from which the transaction originated), and up to 30 characters for detailed reference.



The Chart of Accounts record contains a 1-digit company number, a 4-digit account number, a 3-digit subaccount number that can be used to designate profit center, an account description, three special codes for formatting the financial statements, and up to 13 periods of budgeting and last-year comparative information.

The financial statements can be printed for any specified period (starting and ending dates) and for selected or all profit centers. Optionally, budgets can be shown on the profit and loss statement and last-year comparatives on the balance sheet. Budgets or comparatives can also be optionally shown on the supporting schedules.

**Price:** \$1500 – \$2000

**Contact:** Robert J. Steinis  
(203) 378-6010

FOOD DISTRIBUTOR SYSTEMS, INC.  
959 Main Street  
Stratford, CT 06497

### General Ledger

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • General ledger

This fully integrated, on-line, multiuser UNIX\*-based general ledger system provides budget analysis and all standard G/L reports, including balance sheet, profit-and-loss statement, detail and summary trial balances, journals, schedules, budget comparisons, and cash-flow statements. Manual entries allow for adjustments, budgets, and beginning balances. The system supports "memo" and "self-reversing" transactions. The user can define virtually any accounting period, and reports can be printed for any accounting period (current or past) at any time. Multicompany and multidivision support allows printing of either separate or consolidated statements. "Cash" and "accrual" accounting methods are supported simultaneously.

Also available are a print key providing hard copy of any screen image, true multiuser design for concurrent program use, built-in multicompany/multidivision support, and a user-assigned predefined company/division or option to specify company/division. Timely information is ensured through the automatic updating of G/L from all modules.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel  
(312) 332-3242

NEAL NELSON & ASSOCIATES  
185 N. Wabash, Suite 1908  
Chicago, IL 60601

## **General Ledger**

**PDP-11 Operating System:** RSTS

**Keywords:** • Financial analysis • General ledger

This system provides all the forms, programs, and procedures necessary to perform the general ledger and financial-reporting functions. Menu orientation makes this system easy to learn and simple to use. With the system's effective error reporting and interactive editing of input information, most errors can be identified and corrected before reaching the main system.

Reviewed annually by outside accountants, this system has a complete, easy-to-follow audit trail and is continually kept up to date. Comprehensive reporting includes trial balances, detail or summary activity listings, trial balances in 13-column worksheet format, transaction logs, historical and budget reports, and user-defined financial statements.

The program can be run stand alone or can be interfaced with companion payables, receivables, payroll, and fixed-assets systems. The documentation includes detailed operating procedures, flow diagrams, file layouts, report samples, program operating instructions, and a dictionary of data and terms used in the system. Complete support and training are available.

A version of this product is available for VAX computers.

**Price:** \$2500 – \$3500

**Contact:** Sharen Robinson, Sales Assistant  
(219) 935-5121

PLYCOM SERVICES, INC.

P.O. Box 160

Plymouth, IN 46563

## **General Ledger**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Financial analysis • Financial management  
• Financial planning • General ledger

This menu-driven system allows multiple users, 18-digit account numbers, and entry validation. General Ledger interfaces with other accounting modules, combines module journals to provide combined journals, reverses prior month's accruals, allows recurring journal entries, can look at two months simultaneously, provides a detail audit trail, produces auditor worksheets with current-year data, selectively prints and summarizes account activity, and facilitates the budget process.

An included report writer prints balance sheets and comparative balance sheets; year-to-date, comparative, and budget-to-actual income statements; trend analyses; spreadsheets; current and year-to-date cash-flow statements; and user-defined statements.

A version of this product is available for VAX computers.



**Price:** \$3000 – \$6000

**Contact:** Robert G. Jackson

(919) 766-0571

RESOURCE SYSTEMS CORP.

4000 Clemmons Avenue, P.O. Box 1546

Clemmons, NC 27012

### **General Ledger**

**PDP-11 Operating System:** RSTS

**Keywords:** • General ledger

This program offers a complete general ledger system.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Frank Zimmer, President

(201) 231-9400

UNITRONIX CORP.

50 County Line Road

Somerville, NJ 08876

### **General Ledger and Financial Reporting**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS

**PRO Operating System:** P/OS

**Keywords:** • Financial management • General ledger

• Report writer • Spreadsheets

This system features detailed ledgers allowing open-item posting and financial statements designed by the user through parameter files. Other user-oriented features include:

- User-defined account numbers with up to 15 characters and up to 13 user-defined accounting periods for any fiscal year
- Multiple input screens for journal entries
- Automatic recurring entries based on constant dollar amounts or constant percentages of account balances
- A detail posting collapse feature that does not hinder the ability to make prior-period adjustments or to obtain prior-period financial statements
- An audit trail for all entries provided by transaction journals and a spreadsheet interface for detailed financial analysis
- Budget and prior-year information for financial reporting
- Wildcard reporting for multiple companies and multidivision capabilities
- A password security system
- Interfaces to the Accounts Payable, Accounts Receivable, Payroll, and Fixed Assets; other complementary products include the Job Cost, Order Entry, and Inventory Control systems

Financial statements include multiple balance sheets and income statements, a statement of changes, ratio and asset analyses, disclaimer letters, and many detail, trial balances, recurring allocation and standard journal listings, and transaction journals.

The user's guide includes information for the office manager, the terminal operator, and the application supervisor. The reference manual provides information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$925 - \$7500

**Contact:** Sales Department

(806) 792-3785

COMPU-SHARE, INC.

3824 50th Street

Lubbock, TX 79413

### General Ledger and Financial Reporting

**PDP-11 Operating System:** RSTS

**Keywords:** • General ledger

Memory required: 256KB and 20MB of disk storage.

This system, with full audit trails and on-line data entry and inquiry, allows fast closing of books and decreases the closing cycle to hours. The features include flexible chart of accounts and budgeting, complete account management, recurring journal entries, automatic journal reversals, multicompny or multiclient processing and reporting, and comparisons to previous years' posting to prior and future periods. Reports include balance sheet, income statement, general ledger for month, year to date for all or a single account, chart of accounts, budgets by department, and journal entries.

For nonusers of accounts payable systems, a check entry feature is available, which provides check registers and detail by general ledger accounts.

Our software warranty provides users with comprehensive support and training. Each turnkey system includes up to four hours' field training for each package, at no charge, during the first 30 days following installation. One user manual is provided with each software package. Additional copies are available.

The software, written in BASIC-PLUS, runs under RSTS/E on DIGITAL PDP-11 and compatible minicomputers. End-user, OEM, and software reseller licensing agreements are available.

**Price:** \$1495

**Contact:** Warren C. Nagler

(714) 997-8927



JADTEC, INC.  
546 West Katella Avenue  
Orange, CA 92667

### **General Ledger System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Financial analysis • General ledger

This menu-driven, password-protected system accommodates monthly, quarterly, and other reporting periods and features user-defined and controlled financial reporting; input documents for data entry; account maintenance designed into the menus; detail entries available on a year-to-date basis, extensive validation of account numbers, hash totals, and "limit tests"; immediate input validation; user ability to suppress any/all financial statement reports; automatic interface to other major systems (A/P, P/R, and so on); and instant access to detail or accounts.

The system also incorporates a variety of income statements, suppresses zero dollar amounts, underlines total amounts, reestablishes new-year balance on demand, automatically adjusts previous-month changes to year-to-date totals, allows unlimited chart of accounts and alphanumeric account numbers, distributes single G/L accounts to multiple financial lines, and accommodates company division/department breakdowns.

A version of this product is available for VAX computers.

**Price:** \$3000

**Contact:** Elvin E. Smith or Forrest E. Weddle

(913) 782-8544

RUF CORP.

1533 E. Spruce

Olathe, KS 66061

### **GL Eleven**

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger

This menu-driven, integrated set of sales, purchase, and nominal ledgers provides for on-line data entry, validation, inquiry, and update. The system's unique management reporting facilities provide flexibility of report content. Both the compilation of subtotals and the detail printing sequence are user defined.

The system, developed by APT Ltd., is parameter driven, allowing you to alter the menus and the content of the screens. You can also control access by using the security routines. Entry to the system is password controlled at both menu and option level within each menu. An automatic recovery and restart procedure is included.

A version of this product is available for VAX computers.

**Price:** £6000 – £25,000

**Contact:** H. Exton-Smith  
(0272) 24181

RTZ COMPUTER SERVICES  
P.O. Box 19, 1, Redcliff Street  
Bristol BS99 7JS Great Britain

**G/L (General Ledger)**

**PDP-11 Operating System:** RSTS

**Keywords:** • General ledger

This application includes flexible formats for trial balances, general ledgers, balance sheets, gross-profit reports, and income statements. Provision is made for comparative reporting on budget and last-year amounts, in conjunction with individualized branch, department, and consolidated reporting. Transaction entry comes either through a document entry program or automatically from any other Data Key integrated application being used.

**Price:** \$3500

**Contact:** Marvin Gogal, Branch Manager  
(403) 464-7121

DATA KEY LTD.  
2107 – 87 Avenue  
Edmonton, Alberta T6P 1L5 Canada

**G/L (General Ledger), MCBA, Inc.**

**PDP-11 Operating System:** CTS-300, Micro/R SX, RSTS, RT-11,  
XENIX™

**Keywords:** • General ledger

This package handles up to eight companies, allows multiple profit centers, and includes up to 13 accounting periods in a company's fiscal year; provides sequential numbering of all G/L reports; can maintain a chart of accounts; permits entry and editing of general journal transactions; maintains transaction detail for the entire year so that year-end detail reports can be printed; includes a comprehensive year-ending procedure and a security system; and interfaces with MCBA's Accounts Receivable, Accounts Payable, Payroll, Job Costing, and Fixed Assets and Depreciation packages. The package also prints the chart of accounts printout, general journal transaction register, detailed general ledger report, general ledger trial balance, general ledger source cross-reference, and financial statements that include flexible, user-defined formats.

A separate menu can optionally compress all transactions in the year-to-date file into one period-ending transaction for each period in each account as coded in the chart of accounts; create a sample set of year-to-date transactions to check the format of all financial statements; and display the amount of space remaining in all the major G/L files.

XENIX™ is a trademark of Microsoft Corporation.



A version of this product is available for VAX computers.

**Price:** \$2000 – \$3000

**Contact:** Sales Representative  
(818) 957-2900  
MCBA, INC.  
2441 Honolulu Avenue  
Montrose, CA 91020

### **Idaho Falls Payroll System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Education • General ledger • Payroll

Memory required: 28K.

The payroll package implemented by the Idaho Falls School System is part of a fully accrued and encumbered system of accounting. The package handles three types of employee payments: contract payments, time card payments, and payments for employees who earn a fixed amount a day.

The package includes master personnel file maintenance, payroll and deduction calculation, check writing, payroll journal, deduction registers, and automatic entry to the general ledger system. DECUS number 11-33.

**Restrictions:** Users' payroll requirements must resemble those of the Idaho Falls implementation.

**Note:** Card layouts, disk file layouts, and sample output and program descriptions are offered with the listing.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **IFAS (Interactive Financial Accounting System)**

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS, RSX

**Keywords:** • Accounts payable • Accounts receivable  
• Order processing • Payroll

This comprehensive set of application modules for accounts receivable, accounts payable, financial reporting, and order entry/invoicing can be installed separately or combined with IMCS to form an integrated system. The IFAS functions provide a high degree of data base security through extensive on-line edit checking, numerous accounting controls, and the use of audit trails, transaction registers, and balancing techniques. Detailed descriptions of the many capabilities of these systems are available on request.

A version of this product is available for VAX computers.

**Price:** \$4000 +

**Contact:** Kim Sheridan  
(602) 323-1813

INTERACTIVE INFORMATION SYSTEMS, INC.  
505 N. Alvernon Way, Suite 102  
Tucson, AZ 85711

### **IMPCON-FMS**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Accounts payable • Accounts receivable  
• Financial management • General ledger

IMPCON-FMS, written in COBOL, is a powerful, fully integrated system comprised of accounts payable, accounts receivable, and the general ledger, complete with its own GL report writer. As part of the family of products available from CSD, IMPCON-FMS can optionally be used with the IMPCON-MMS (Inventory and Manufacturing Control system) to provide a complete closed loop MRP II system. In addition, CONCOST, the Contract Costing system, is applicable for companies that need to accumulate costs against contracts and projects.

A version of this product is available for VAX computers.

**Price:** \$16,500 - \$35,000

**Contact:** Trevor J. Ogle  
(617) 460-0330

COMPUTER SYSTEMS DEVELOPMENT (CSD) INC. OF  
MASS.

910 Boston Post Road, Wayside Professional Building  
Marlborough, MA 01752

### **Integrated Business Software**

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Inventory

Each business package — A/R, A/P, O/E, I/M, G/L, and PR — can function as a stand-alone module or as part of a complete integrated system, with activity in one system automatically updating all associated data in other systems. The order entry, invoicing, and inventory management modules make the system especially attractive to wholesalers, distributors, and small manufacturing firms.

Because of its well-structured, modular design, the system is extremely flexible and can function as a programming aid in designing other applications or in making customizations to the system.

The package is written in DBL.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$8000

**Contact:** Larry Triplett, President  
(614) 826-7678



TRIAD DATA PROCESSING  
36 E. Main Street  
New Concord, OH 43762

**InterAP™**

**PDP-11 Operating System:** DSM (DSM-11)

**PRO Operating System:** MUMPS®

**Keywords:** • Accounts payable • Financial analysis

This complete on-line, interactive accounts payable system interfaces with the InterGL General Ledger and Financial Reporting System or can stand alone. The flexible accounts payable structure allows the user to define chart of accounts, vendor types and files, payment-frequency schedule, bank accounts, discount accounting method, and fiscal periods.

After the user enters payables by entering the number and amount, the system assigns a voucher control number to each payable. The user selects the vendor from the files and enters the invoice number, invoice date, amount, discount terms, due date, descriptive comment, and expense distribution. If the payable has been paid, the system prompts for bank, check number, and check date. Voiding of previously issued checks is also accomplished through the payables entry function. Once entered, a series of payables can be posted to the vendor ledger if the control figures balance with what has been entered.

On-line inquiries can be performed to determine the status of a vendor's account, payables, or checks. Selection is by vendor, voucher number or range, invoice number, date, check number, or a combination. Detailed or summary information is displayed on the screen or printed in hard-copy form. A check-reconciliation module allows the user to reconcile bank statements and to keep track of outstanding or uncleared checks. The user can produce an accounts payable aging from a specified date (accrual or only up to a given fiscal period) and a general ledger aged trial balance, which highlights possible inconsistencies in dating of payables.

The payment process is accomplished by means of a cash-requirements report, which shows the amount due. The user then designates which items are to be paid and whether the discount is to be taken. A summary of what has been queued for payment is produced, and the user can add to or delete from that list. The user then requests the system to produce checks. If the user has indicated that the checks are correct, a check (run) register is printed, and the files are updated. Items can also be paid manually, by entering the check number.

Available reports and inquiries include monthly check registers, settlement reports, agings and ledgers for individual vendors or vendor types, and short voucher inquiries.

MUMPS® is a registered trademark of Massachusetts General Hospital.

## 92 Accounting

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Alexander J. Phillips, President  
(201) 256-7633

INTERACTIVE SYSTEMS AND MANAGEMENT CORP.  
1500 Cardinal Drive  
Little Falls, NJ 07424

### **InterGL™**

**PDP-11 Operating System:** DSM (DSM-11)

**PRO Operating System:** MUMPS®

**Keywords:** • Financial analysis • General ledger

This complete general ledger and financial reporting system can be used by any small to medium-size business or medical entity. InterGL serves up to 9000 major general accounts, keeps an entity's general and subsidiary ledgers, and produces financial and management reports.

The user can define and design a chart-of-account structure and financial reports, as well as the fiscal-period structure of the accounting system. The system can be used to produce divisional and consolidated reports. The system definition functions are accomplished on line, and extensive editing is performed to ensure correctness.

General ledger postings are entered on line. The user specifies the fiscal period and the number of postings. The account number is verified against the chart-of-account file, the name of the account is displayed, and the user then enters the date of the posting, its source, the amount of the posting, and any audit reference and explanation. The entry process minimizes the number of keystrokes while ensuring adherence to correct accounting principles.

The user can review and modify postings before posting them to the ledger. A posting to the ledger can be reversed by making an adjusting entry. Complete journal listings can be produced for all postings. Budget figures can also be entered into the system.

The system's reports include general ledger (with subsorting by vendor and customer within account), abbreviated general ledger, summary general ledger, journals, and working trial balance. Financial statements include P&L reports by division or consolidated for various periods and balance sheet. Statements can be produced with user-defined supporting and management schedules.

InterGL can take postings from other accounting systems, such as accounts payable, accounts receivable, and depreciation and amortization. Once a period has been closed, postings can no longer be made to that period. Closing of period creates the beginning balances for the next period. If a year-end closing is performed, only the balance sheet account figures are carried forward. The system can be used for both cash and accrual accounting.



MUMPS® is a registered trademark of Massachusetts General Hospital.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Alexander J. Phillips, President  
(201) 256-7633

INTERACTIVE SYSTEMS AND MANAGEMENT CORP.  
1500 Cardinal Drive  
Little Falls, NJ 07424

## Inventory

**PDP-11 Operating System:** RSTS

**Keywords:** • Inventory

This package is programmed in VAX BASIC combined with file-driven procedures and handles multiple companies and branches and multiple divisions within branches. All system codes, reference numbers, and file specifications are user accessible and easily maintained. A security system is included, with security at both the program and option levels.

The system features up to 20 characters for product identifications and up to 8 characters for bin location code; assigned general ledger account numbers for inventory, sales, and cost of sales for each product; interfacing with the Order Entry and Purchase Order modules, making automatic journal entries for issues and receipts; unlimited files on previous-year history that can be transferred off line or purged; perpetual maintenance of warranty history records for serialized items sold to customers; a product tax-handling feature; reconciliation routines for comparing physical count; and FIFO, LIFO, or averaging inventory costing methods.

This package interfaces with RSC Accounts Receivable, Order Entry, General Ledger, and Purchase Order.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$6000

**Contact:** Linda Wingfield  
(919) 766-0571

RESOURCE SYSTEMS CORP.  
4000 Clemmons Avenue, P.O. Box 1546  
Clemmons, NC 27012

## IOI: Order Entry

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Billing • Inventory • Order processing  
• Purchasing

This order entry system, based on average unit costing, handles purchasing, inventory control, and invoicing. IOI, which can be integrated to the standard general ledger, accounts receivable, accounts

payable, and sales analysis, is screen formatted and has user-selected options and various reports and inquiries.

The purchasing package allows for items to be added to the existing purchase order, and reports are available to show the status of outstanding orders.

**Price:** \$7000 — \$20,000

**Contact:** Marvin Gogal, Branch Manager  
(403) 464-7121

DATA KEY LTD.

2107 — 87 Avenue

Edmonton, Alberta T6P 1L5 Canada

## Job Costing

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Cost accounting • Manufacturing  
• Project management

This fully integrated, on-line, multiuser, UNIX\*-based system provides cost analysis by job and by phase, detail and summary reports, and current-status inquiry. Estimate and actual information can be entered by operation. Manual entry, adjustments, job cost history, and revisions of estimates can be maintained by operation. Analysis reports that recap job cost by job, operation, product, customer, salesperson, or employee are available. An estimate-versus-actual comparison can be printed by operation or by employee. A cost-versus-actual comparison can be printed by product, customer, and salesperson.

Also available are a print key providing hard copy of any screen image, true multiuser design for concurrent program use, built-in multicompany/multidivision support, and a user-assigned predefined company/division or option to specify company/division. Timely information is ensured through the automatic updating of G/L from all modules.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel  
(312) 332-3242

NEAL NELSON & ASSOCIATES

185 N. Wabash, Suite 1908

Chicago, IL 60601

## MANAGE — Data Base Management System

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Payroll

MANAGE is a general-purpose data management package for the small to medium-size business. The various accounting systems — A/P, A/R, G/L, Inventory, and Payroll — are integrated through the use of commonly structured data bases.



A data base processor utility allows easy file maintenance on any system's files, including adding or deleting records, changing and sorting data, and building multiple key indexes for quick lookups. MANAGE has more than 25 library routines and a program generator to simplify program development. BASIC-PLUS source code is provided.

**Price:** \$1500 - \$2500

**Contact:** Robert C. Ashcraft

(703) 382-0596

APPLIED BUSINESS SERVICES, INC.

1055 W. Main Street

Christiansburg, VA 24073

## **MAXX A Management Accounting System**

**PDP-11 Operating System:** RSTS

**PRO Operating System:** XENIX™

**Keywords:** • Accounts payable • Accounts receivable

• Distribution • General ledger

This comprehensive accounting and management information software product gives you more effective control of your business. MAXX is an easy-to-understand, simple-to-use, and proven product that has been successfully operating in small and large firms for nearly a decade. The well-documented system includes both installation and user operations guides, is menu driven, and is organized functionally.

MAXX is a fully integrated software product offering immediate access to order entry, billing, accounts receivable, inventory control, purchasing, accounts payable, general ledger, fixed assets, sales analysis, mailing lists, and report printing functions. Interfaces to the most popular spreadsheet programs are built in.

MAXX processes all entries in accordance with generally accepted accounting principles, providing up-to-the-minute information. Independent modules share common data, thus eliminating time-consuming redundant posting or reupdating functions. An extensive set of control reports satisfy strict auditing requirements.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$245 - \$9995

**Contact:** Michael Hansen

(404) 391-9101

AMERICAN SOFTECH INC.

1155 Hammond Drive, Suite 4285

Atlanta, GA 30328

## **MBS AP (Manus Business Systems Accounts Payable)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts payable

The Accounts Payable module gives the MBS user control over cash disbursements and related accounting functions. The module operates as an automatic vouchering system to accumulate information on vendors, vendor invoices, discounts, and expense distributions. The system produces complete prepayment information, writes approved checks and related reports, includes check reconciliation, and maintains historical data for analysis. A special inquiry function produces an immediate report of cash requirements within a user-specified period for a particular bank.

Several interactive entry functions are provided to enter vouchers, modify their status in the system, permit check voiding, and reconcile returned checks. All entries are accumulated and stored to provide necessary audit trails.

All entries must have a unique voucher number assigned for audit and control purposes. A payable voucher can be classified as a 1-time purchase or as a contractual recurring payable commitment. For recurring payables, the system automatically generates the payment voucher each time payment is due, with no further manual input necessary.

The Accounts Payable module interfaces with the MBS General Ledger module.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$6000

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### **MBS AR (Manus Business Systems Accounts Receivable)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts receivable

This module provides all the capabilities required for receivables processing and control. Accounting personnel can maintain a customer master file and record charges and credits for those customers on file, with appropriate general ledger distributions generated to offset the transaction amount. The Accounts Receivable module gives the MBS user accurate working knowledge of outstanding accounts, individual customer credit positions, and incoming cash. Both open-item and balance-forward methods are supported.

Receivables may be created either through the Order Processing interface or by entering invoices directly into the Accounts Receivable module. Functions are included for entering invoices, cash receipts, and memos.



Several functions provide status and audit trail reporting. In many cases, those reports enable the user to supply special selection and sorting criteria. The reports produced — Aged Trial Balance, Receivables Ledger, and Monthly Statements of Account — show all open-item detail, including past and current finance charges. Inquiry functions provide immediate access to the receivables files and to historical credit information.

The Accounts Receivable module may operate as a stand-alone module or be integrated with the MBS Order Processing and General Ledger modules.

A version of this product is available for VAX computers.

**Price:** \$3000 — \$6000

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### **MBS GL (Manus Business Systems General Ledger)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • General ledger

This comprehensive package for financial reporting supports up to 13 reporting periods for each fiscal year, maintains 13 monthly budgets, and allows a chart of account numbers of up to 12 digits. Journal entries may be entered directly into the General Ledger module in a tightly controlled fashion or interfaced in detail or summary form from subsidiary modules. Both recurring standard journal entries and accrual entries, which are automatically reversed in the following period, are supported. Automatic allocations processing is fully implemented.

A special Financial Report Generator allows the user to create custom financial reports that specifically match the reporting needs of the organization.

A version of this product is available for VAX computers.

**Price:** \$3000 — \$6000

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### **MJA™ Accounts Payable for the PRO 350**

**PRO Operating System:** P/OS

**Keywords:** • Accounts payable • Report writer • Security

This multicompany accounting package provides the capability to maintain a list of vendors, transactions, and payments. Designed as

one module in the Multi-Journal Accounting (MJA) system, the Accounts Payable system can operate as an independent subsidiary or be integrated with other MJA products as they become available.

All data entry is performed on fully formatted video-based screens with easy-to-understand prompts. On-line error reporting, batch verification reports, and editing facilities are provided to ensure the accuracy of all data. All system reports are available for inspection at the user's terminal (with full 132 columns) or can be printed on the system printer.

P/OS hard disk operating system is prerequisite.

Refer to SPD #A3.50.xx when requesting further information on this product from your local DIGITAL sales office.

MJA™ is a trademark of Prodata, Inc.

**Price:** \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **MJA™ Accounts Receivable for the PRO 350**

**PRO Operating System:** P/OS

**Keywords:** • Accounts receivable • List processing

This multicompany accounting package provides the capability to maintain a list of customers, transactions, and payments. Designed as one module in the Multi-Journal Accounting (MJA) system, Accounts Receivable can operate as an independent subsidiary or be integrated with the General Ledger system.

All data entry is performed on fully formatted video-based screens with easy-to-understand prompts. On-line error reporting, batch verification reports, and editing facilities are provided to ensure the accuracy of all data. All system reports are available for inspection at the user's terminal (with full 132 columns) or can be printed on the system printer.

Customer master file information includes name, address, 9-digit ZIP code, credit limit, YTD and MTD sales, salesperson code, date and amount of last payment, phone number, and tax status. Both balance-forward and open-item customers can be maintained. The aging criteria are user definable.

P/OS hard disk operating system is prerequisite.

Refer to SPD #A3.51.xx when requesting further information on this product from your local DIGITAL sales office.

MJA™ is a trademark of Prodata, Inc.

**Price:** \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).



**MJA™ General Ledger for the PRO 350****PRO Operating System:** P/OS**Keywords:** • Financial management • General ledger

This multicompany accounting package provides the capability to maintain complete records of the business activity. Up-to-date financial statements and reports can be prepared as desired.

All data entry is performed on fully formatted video screens with easy-to-understand prompts. On-line error reporting, batch verification reports, and editing facilities are provided to ensure the accuracy of all data. All system reports are available for inspection at the user's terminal (with full 132 columns) or can be printed on the system printer.

The financial statement design facility provides the ability to generate customized income statements and balance sheets. Complete flexibility is allowed to yield departmentalized statements and full or partial consolidations. Several forms can also be prepared according to the user's needs.

The period-holdover facility allows accounting activity to continue from period to period without mandatory end-of-period closeouts. Rather, the periodic closeouts can be performed at any time. The loan amortization schedule facility prepares the amortization schedules and provides for automatic calculation of any missing figure. The recurring-entry facility is provided with an expiration count for automatic maintenance of periodically repeating journal transactions.

Password protection is provided for access to the system manager functions, to the day-to-day transaction maintenance facilities, and to the financial statements.

P/OS hard disk operating system is prerequisite.

Refer to SPD #A3.54.xx when requesting further information on this product from your local DIGITAL sales office.

MJA™ is a trademark of Prodata, Inc.

**Price:** \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).

**MJA™ Order Entry/Inventory****PRO Operating System:** P/OS**Keywords:** • Inventory • Order processing • Report writer  
• Security

This multicompany accounting package provides the capability to maintain a list of inventory items, to process customer orders, to control the shipping/invoicing function, and to maintain back orders by customer and by product. Designed as one module in the Multi-Journal Accounting (MJA) system, the Order Entry/Inventory system can operate as an independent subsystem or be integrated to provide automatic updating by using the MJA Accounts Receivable and MJA Accounts Payable systems.

All data entry is performed on fully formatted video-based screens with easy-to-understand prompts. On-line error reporting, batch verification reports, and editing facilities are provided to ensure the accuracy of all data. All system reports are available for inspection at the user's terminal (with full 132 columns) or can be printed on the system printer.

P/OS hard disk operating system is prerequisite.

Refer to SPD #A3.52.xx when requesting further information on this product from your local DIGITAL sales office.

MJA™ is a trademark of Prodata, Inc.

**Price:** \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **MJA™ Payroll and Personnel**

**PRO Operating System:** P/OS

**Keywords:** • Payroll • Personnel • Report writer

This multicompany payroll package provides the capability to maintain a roster of active and inactive employee pay records along with a breakdown of payroll costs by job or department. Designed as one module in the Multi-Journal Accounting (MJA) system, the Payroll and Personnel system can operate as an independent subsidiary or can be integrated with the MJA General Ledger system.

All data entry is performed on fully formatted video-based screens with easy-to-understand prompts. On-line error reporting, batch verification reports, and editing facilities are provided to ensure the accuracy of all data. All system reports are available for inspection at the user's terminal (with full 132 columns) or can be printed on the system printer.

P/OS hard disk operating system is prerequisite.

Refer to SPD #A3.53.xx when requesting further information on this product from your local DIGITAL sales office.

MJA™ is a trademark of Prodata, Inc.

**Price:** \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Multiuser Digital Accounting System**

**PDP-11 Operating System:** Micro/R SX, None required

**Keywords:** • Inventory • Payroll • Sales analysis

This general small-business accounting package consists of a starter kit and seven integrated modules. The starter kit can be installed as a stand-alone system or as a Micro/R SX-based application on the A-to-Z Integrated System. The kit supports up to 99 companies and provides record and file locking and a series of installation and maintenance menus.



The General Ledger module supports multiple profit centers and up to 13 accounting periods; allows the user to enter, edit, and print the chart of accounts; allows on-line account inquiry; and prints a variety of statements and reports.

The Accounts Receivable module supports both open-item and balance-forward customers and allows the user to enter, edit, and print customer and salesperson files, sales transactions, and cash receipts. The module allows on-line customer account inquiry, calculates finance charges and sales commissions, and prints a variety of statements and reports.

The Accounts Payable module allows full, partial, or deferred payments and calculates due dates, discount dates, and discount amounts.

The Payroll module supports both hourly and salaried employees with six pay frequencies, supports a variety of special deductions and earnings, and prints payroll checks.

The Inventory Control module supports standard, average, LIFO, and FIFO inventory valuation methods; provides flexible pricing structure and automatic price changes; and prints the item file and more.

The Order Entry module supports 1- and 2-step order processing, calculates commissions and up to three sales tax rates for each transaction, and supports drop shipments, partial shipments, and back orders.

The Sales Analysis module integrates with Accounts Receivable to print sales analysis reports by customer, customer type, customer sales volume, responsible salesperson, and state. Integrated with Inventory Control, the module prints sales analysis reports by item, item category, and item sales volume.

Refer to SPD #18.25.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$50 – \$450

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **NCS (National Creditor System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Credit  
• Financial management

Memory required: 256KB.

This on-line, interactive system for credit verification and collection handles credit entry through collection for single- or multidivision organizations, collection bureaus, or legal operating from any number of locations. NCS uses video or hard-copy terminals to maintain creditor, collection type (service), and debtor information in an on-line data base with selective access control. The information in the data base is protected by highly sophisticated data security schemes designed to meet FDCPA legal requirements.

The system uses the latest letter-quality printers and allows a selection of preprinted forms or letterhead, single-sheet or continuous forms, and fixed-text or variable-text insertion. Output is formatted to the highest standards of text processing.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$7500

**Contact:** Carol D. Condon  
(614) 231-2130

MBA SYSTEMS AUTOMATION, INC.  
3477 E. Livingston Avenue  
Columbus, OH 43227

### **NFC Payroll Module**

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS, RSX,  
RT-11

**PRO Operating System:** CTS-300, PRO/VENIX™, RT-11, TSX-11,  
XENIX™

**Keywords:** • Payroll

This product, written in DIBOL, handles employee maintenance, payroll checks, history file maintenance, printing of W-2 forms and 941A schedules, and so on, for normal payroll operations.

VENIX™ is a trademark of VenturCom, Inc. XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$500

**Contact:** Neil Freeman  
(808) 235-3401

NEIL FREEMAN CONSULTANTS  
45-449 Hoene Place  
Kaneohe, HI 96744

### **NFC Professional Accounting**

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS, RSX,  
RT-11

**PRO Operating System:** CTS-300, PRO/VENIX™, RT-11, TSX-11,  
XENIX™

**Keywords:** • Billing

This product, written in DIBOL, handles after-the-fact record keeping for sales, cash receipts, payroll, and general ledger transactions; trial balance; financial statement printing; and so on. Accountants use the system to handle client bookkeeping and write-up services.

VENIX™ is a trademark of VenturCom, Inc. XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.



**Price:** \$500

**Contact:** Neil Freeman  
(808) 235-3401

NEIL FREEMAN CONSULTANTS  
45-449 Hoene Place  
Kaneohe, HI 96744

### **NFC Property Management**

**PDP-11 Operating System:** CTS-300, Micro/RSTS, Micro/RSX, RSTS, RSX, RT-11, XENIX™

**PRO Operating System:** CTS-300, PRO/VENIX™, RT-11, TSX-11, XENIX™

**Keywords:** • Accounts payable • Accounts receivable  
• Property management

This product, written in DIBOL, handles all normal general ledger, accounts receivable, and accounts payable functions for property management. In addition, this module provides auto invoicing, owners' reporting, owners' checks, and so on, for normal property management operations. A payroll function can be added.

VENIX™ is a trademark of VenturCom, Inc. XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$3000

**Contact:** Neil Freeman  
(808) 235-3401

NEIL FREEMAN CONSULTANTS  
45-449 Hoene Place  
Kaneohe, HI 96744

### **OPS (On-Line Payroll System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Payroll

This financial and administrative package is designed for colleges, universities, school boards, municipalities, and paragonovernmental agencies. OPS features user-defined earnings deductions, benefits, labor distribution, and frequencies; on-line data entry and validation; vacation advance processing; absentee control and bank facility; master file maintenance and updates; extensive audit trails; salary grid; payroll check reconciliation, and payroll projections, using salary grid; comprehensive payroll/employee reports; a report writer; and automatic interface to BAS (Budgetary Accounting System).

A version of this product is available for VAX computers.

**Price:** \$30,000 (Canadian)

**Contact:** Dennis Sakamoto  
(416) 666-3833

S.R.B. INTERNATIONAL LTD.  
Whitby Corporate Centre  
209 Dundas Street E., Suite 205  
Whitby, Ontario L1N 7H8 Canada

## Order Entry

**PDP-11 Operating System:** RSTS

**Keywords:** • Order processing

This package is programmed in VAX BASIC combined with limited use of file-driven procedures. The package interfaces with the RSC Accounts Receivable automated system to facilitate the processing of sales and service orders into accounts receivable invoices with maximum speed and efficiency.

The Order Entry package controls the entry of sales or service orders, as well as any prepayments or deposits accompanying the orders. Every order is related to a specific customer account and is transformed into an invoice after shipping data is entered. Routines include printing orders, invoices, and credit and debit memos. All data entered is validated before being accepted by the system. The complete audit trail traces all activity to its source and determines at any time what is on order (back order) on a customer, product, or salesperson basis. Salesperson activity and commission history is maintained by customer(s) and can be extended to the product level.

All system codes, reference numbers, valid print devices, file specifications, on/off switches, and default information are user accessible and easily maintained. Multiple branches and companies (with or without separate data files) are handled by the Order Entry system, and user-maintainable menu and security systems are included, with security at both the program and option levels.

This package interfaces with the RSC Accounts Receivable, Inventory, General Ledger, Purchase Order, and Job Costing modules.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$6000

**Contact:** Linda Wingfield  
(919) 766-0571

RESOURCE SYSTEMS CORP.

4000 Clemmons Avenue, P.O. Box 1546  
Clemmons, NC 27012

## Order Entry and Inventory

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11

**Keywords:** • Billing • Inventory • Order processing  
• Sales analysis

This menu-driven system can handle up to 64,000 inventory items, with 14-character product code fields for each item. The system



includes information on product availability and pricing, product categories, three prices, average cost, quantity on hand or on order, average lead time, quantity reserved or back ordered, economic order quantity, discount codes, taxable status, picking sequence, month-to-date and year-to-date quantity sold and costs, and comprehensive sales analyses by product, by categories, by customers, or by sales representatives. This system interacts with other Armadale business packages programmed in Pascal II.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000

**Contact:** Michael G. Sifton  
(416) 477-8000

ARMADALE SYSTEMS INC.  
Toronto Buttonville Airport  
Markham, Ontario L3P 3J9 Canada

### Order Entry/Inventory

**PDP-11 Operating System:** TSX-PLUS™

**Keywords:** • Inventory • Order processing

This complete order entry/inventory control system is typically used by a distributor, reseller, or retailer. Entry of orders is checked against inventory, and picking tickets are printed. Freight charges are applied, and an invoice is issued. The invoice entry is automatically recorded in the accounts receivable.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$4000

**Contact:** Sam Wingate, Vice President  
(813) 935-8844 or 935-8951

AUTOMATION RESOURCES CORP.  
2901 W. Busch Boulevard, Suite 309  
Tampa, FL 33618

### Order Entry/Inventory Control

**PDP-11 Operating System:** RSTS

**Keywords:** • Inventory • Order processing

Memory required: 256KB and 20MB of disk storage.

Order Entry features automatically assigned order number, order date, all standard details of a customer's account after the input of the customer number (billing address, usual shipping address, shipping method, prepaid or collect, terms of sale, taxable or not, account executive, and usual commission rate), and order comments. Reports list orders received, picking lists or packing slips, and backlog or back-order situation. The system can be integrated into the billing system and the inventory and the accounts receivable programs.

Inventory Control features a master file with information on the standard and selling price, the standard item cost, the sales and costs for

the period, and the year to date. The on-line system can facilitate cyclical physical inventory, which is easier than the usual semiannual or annual physical inventories. Multilevel pricing by customer and multilevel discounting are available. The system tracks items on order, actual inventory balance, and available inventory and highlights when orders should be vended or manufactured internally. Reports include the inventory status report and sales costs and gross profits for the month and year to date by customer and by product. Reports on transactions processed are available for audit trails.

The inventory system can operate with less inventory, thus requiring less inventory management costs (warehouse space, insurance, and interest) and less cash investment.

Our software warranty provides users with comprehensive support and training. Each turnkey system includes up to four hours of field training for each package, at no charge, during the first 30 days following installation. A user manual is provided with each software package.

The software, written in BASIC-PLUS, runs under RSTS/E on DIGITAL PDP-11 and compatible minicomputers. End-user, OEM, and software reseller licensing agreements are available.

**Price:** \$1495

**Contact:** Warren C. Nagler

(714) 997-8927

JADTEC, INC.

546 West Katella Avenue

Orange, CA 92667

### **PARS: Professional Time, Billing A/R**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Cost accounting  
• Office systems

This interactive time analysis and billing system is particularly useful in professional organizations, such as CPA, law, and engineering firms, in which client billing is directly related to the time an individual spends performing certain services. The system accumulates staff hours under work codes, at certain standard rates, and for a specific client/job. Thus, the system is adaptable to a variety of purposes.

PARS supports the automatic billing of up to 999 standard, recurring charges, as well as invoice charges. The year-to-date billable charges and year-to-date billing reports can be compared to support decisions involving retainer fees and billing in general. PARS gives the professional the option of billing as the services are rendered or spreading the billing over several billing periods. PARS can be implemented by itself or be integrated with other systems. The system has many user-controlled options and does not require programmer assistance. Screen-



formatted entry encourages user acceptance, decreases operator training time, and ensures data integrity.

A version of this product is available for VAX computers.

**Price:** \$3500 – \$5000

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.  
1010 S. Weinbach Avenue  
Evansville, IN 47714-2994

### **Pay (Canadian Payroll)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Employment • Payroll • Taxes

This system provides all standard requirements associated with hourly and salaried wage earners for any number of pay periods. On-line access allows instantaneous employee additions and terminations, record of employment displays, and easy time-document entry.

The payroll can be broken down by branch and department to provide meaningful labor breakdowns. In addition to the standard UIC, CPP, and tax deductions, a variety of deductions can be handled and automatically maintained.

Reporting includes edits, journals (current and year to date), a check writer with an associated check register, employee data sheets, union and health care remittances, earnings summaries, master file dumps and updates, unemployment earnings, and year-end T4 generation.

Optional integration to the Data Key general ledger and work-in-progress applications is offered.

**Price:** \$5000

**Contact:** Marvin Gogal, Branch Manager  
(403) 464-7121

DATA KEY LTD.  
2107 – 87 Avenue  
Edmonton, Alberta T6P 1L5 Canada

### **Payroll**

**PDP-11 Operating System:** RSTS

**Keywords:** • General ledger • Payroll • Taxes

Deductions, attachments, and vacation pay are simple matters on this system. Allowance is made for 5 taxes and 11 deductions (fixed and/or miscellaneous). Totals are carried for both fiscal year to date and calendar year to date. Paychecks may be produced weekly, monthly, semi-monthly, every two weeks, or any number of days. Complete payroll reporting includes W-2 and 941 forms, as well as a detailed user-defined analysis of payroll distributions by department and type of work. Payroll checks and a check register are produced automatically.

The distribution of earnings automatically interfaces with ADD's General Ledger system.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$4000

**Contact:** Bruce A. Bott, President  
(201) 584-4026

ADVANCED DIGITAL DATA, INC.  
354 Route 206  
Flanders, NJ 07836

## **Payroll**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11

**Keywords:** • Payroll

This menu-driven system maintains employee and personnel file data; calculates holiday, vacation, sick, or miscellaneous pay, based on regular, overtime, and premium wage scales; has up to eight standard deductions, including savings bonds, which can be prioritized with maximum limits; and provides user-specified pay frequency, with month-to-date, quarter-to-date, and year-to-date totals returned for all data. Payroll prints pay checks and produces payroll, tax, deductions, earnings, and payroll history registers; voids checks; and includes handwritten checks in the system. Payroll interacts with other Armadale business packages programmed in Pascal II.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$3000

**Contact:** Michael G. Sifton  
(416) 477-8000

ARMADALE SYSTEMS INC.  
Toronto Buttonville Airport  
Markham, Ontario L3P 3J9 Canada

## **Payroll**

**PDP-11 Operating System:** TSX-PLUS™

**Keywords:** • Payroll • Taxes

This complete payroll system provides standard gross-to-net calculations. Federal and state taxes are provided as file tables for end-user maintenance. The system prints payroll checks and registers, tax summary reports, 941 and W-2 forms, and an employee master list.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$2000

**Contact:** Sam Wingate, Vice President  
(813) 935-8844 or 935-8951

AUTOMATION RESOURCES CORP.  
2901 W. Busch Boulevard, Suite 309  
Tampa, FL 33618



**Payroll****PDP-11 Operating System:** RSX**Keywords:** • Payroll

This module can either stand alone or be integrated with the Business Information System. The module performs calculations for pay, deductions, fringe benefits, payroll accrual, and labor distribution and, if purchased with the general ledger module, makes journal entries automatically. Hourly, salary, commission, and special pays are accommodated. Paychecks, stubs, and a check register are printed, as well as W-2s quarterly, 941A forms, and others.

Vacation, sick, holiday, personal leave, and other paid time-off balances can be kept and accruals made for employer records and general ledger purposes.

A version of this product is available for VAX computers.

**Price:** \$3500**Contact:** Janna McMillan

(617) 275-5810

BREUER &amp; CO.

54 Middlesex Turnpike  
Bedford, MA 01730**Payroll****PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS**Keywords:** • Payroll • Personnel • Taxes

This system features on-line payroll calculations for all types of pay and deductions, including federal and multiple states' income taxes. User-designed forms allow all types of governmental reporting, including federal and state payroll tax reports, state unemployment and disability reports, and W-2 forms. Other user-oriented features include:

- User-defined employee numbers with up to 11 characters and 4 user-defined fields for each employee record to store additional personnel information
- A user-designed check form that accommodates almost any check design
- The choice of processing employee payroll checks individually or automatically for a group of employees
- Table-driven tax calculations for federal and state income tax withholding, including supplementary pay, social security tax, and earned-income credit
- Multiple pay rates, including shift differentials, and multiples of regular rates
- User-defined pay/deduction types, including automatic cutoffs based on hours, amounts, or date
- Vacation and sick leave accrual
- An audit trail for all entries provided by transaction journals and change logs

- A detail posting collapse feature that allows W-2s and governmental reports for prior payroll periods to be printed after new payroll information has been entered
- A password security system
- Adaptability to Canadian payroll requirements
- Interfaces to Job Cost and General Ledger; other complementary products include the Accounts Payable, Accounts Receivable, Fixed Assets, Order Entry, and Inventory Control systems

Reports include employee listings, a check register and employees' checks report, historical general ledger distributions, earnings by payroll code, rate change and rate review reports, a list of terminated employees, quarterly reports, and tax table listings.

The user's guide includes information for the office manager, the terminal operator, and the application supervisor. The reference manual provides information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$1600 - \$7500

**Contact:** Sales Department  
(806) 792-3785

COMPU-SHARE, INC.  
3824 50th Street  
Lubbock, TX 79413

## **Payroll**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**Keywords:** • Payroll • Personnel

This system, developed by MCBA/CSA, provides a complete audit of all additions, changes, and deletions to the employee master file; allows you to maintain current federal and state tax tables; allows general ledger distribution by department; supports 16 standard deductions; prints employee mailing labels and time card labels; allows entry and editing of attendance transactions; calculates the payroll, including provisions for deducting group insurance and pension contributions from the taxable base; and prints payroll checks, the payroll check and payroll savings bond registers, the payroll check distribution summary, the union deductions register, the medical insurance deductions report, the bank savings and credit union journals, the pension deductions register, the payroll history and historical earnings reports, and eight employee analysis reports.

A version of this product is available for VAX computers.

**Price:** \$2600 - \$2860

**Contact:** William Ferris  
(203) 735-1819



COMPUTER SOFTWARE ASSOCIATES  
366 Main Street, P.O. Box 492  
Ansonia, CT 06401

## **Payroll**

**PDP-11 Operating System:** CTS-300

**Keywords:** • Payroll • Taxes

This comprehensive free-standing module of programs provides gross to net automatic payroll writing. Entry of handwritten checks and adjustments to quarterly and year-to-date figures are accommodated. Following the automatic preparation of checks, appropriate journals are prepared for the control of hours entered by department, checks, taxes, deductions, check reconciliation, and GL interface.

The system features single-source direct entry through CRTs, tutorial prompting for simplified operation, automatic rate and tax calculations, automatic variable deductions, multiple-state calculations, control of declining-balance deductions, automatic W-2 preparation, direct master file inquiry, and on-demand report printing. Hourly and salary payrolls can be run separately or together.

Weekly, biweekly, semimonthly, or monthly tax tables can be set up. Multiple-state and city taxes can be automatically calculated. (The user must supply the appropriate tax tables.)

Payroll processing is accomplished by interactive CRT entry of employee number (with automatic verification and display of employee name), regular hours (defaults to standard hours), overtime hours, vacation hours (if any), miscellaneous earnings to be paid, and any 1-time deductions. From this minimal input, payroll checks and all reports are automatically prepared and are available for printing on demand.

The employee master allows for one salary or three hourly rates (and overtime and double time), nine regular and two declining-balance deductions, deductions frequency code, and additional federal and state withholding taxes. Five taxes can be calculated: federal, FICA, state, city, and disability insurance.

**Price:** \$1500 - \$2000

**Contact:** Robert J. Steinis  
(203) 378-6010

FOOD DISTRIBUTOR SYSTEMS, INC.  
959 Main Street  
Stratford, CT 06497

## **Payroll**

**PDP-11 Operating System:** RSTS

**Keywords:** • Payroll

Memory required: 256KB and 20MB of disk storage.

This system handles labor distribution and an unlimited number of employees and calculates salaried or hourly payments, miscellaneous income, overtime, and federal and state taxes. The system keeps track of year-to-date earnings and taxes; automatically posts to the general ledger; prints checks, employee lists, payroll registers, and W-2s; and generates 941 information and tax deposit amounts.

Our software warranty provides users with comprehensive support and training. Each turnkey system includes up to four hours of field training for each package, at no charge, during the first 30 days following installation. A user manual is provided with each software package.

The software, written in BASIC-PLUS, runs under RSTS/E on DIGITAL PDP-11 and compatible minicomputers. End-user, OEM, and software reseller licensing agreements are available.

**Price:** \$1495

**Contact:** Warren C. Nagler

(714) 997-8927

JADTEC, INC.

546 West Katella Avenue

Orange, CA 92667

## **Payroll**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Payroll • Personnel • Taxes

This fully integrated, on-line, multiuser UNIX\*-based payroll system provides for either salaried or hourly personnel and maintains both earning and deduction histories for each employee. Payroll checks, tax deposit checks, and deduction deposit checks are printed automatically. The system allows the printing of multiple checks for an employee in a payroll period (accommodates vacation and bonus checks) and supports manual or handwritten checks. Either manual or computer-generated checks can be voided. The system calculates taxes and standard deductions and provides separate deduction registers for each type of deduction. Tax reports, such as 941 and W-2 forms, are printed and can be used to substantiate payments sent to unions and savings plans. Various standard or 1-time deductions are supported. Deduction codes can be user defined. Standard deductions can be set amounts or percentages of the regular hours. Tax formulas are stored in easily modified tables to facilitate changes when tax laws change. Earnings can be allocated to multiple G/L accounts, and automatic interface to both G/L and job costing is provided.

Also available are a print key providing hard copy of any screen image, true multiuser design for concurrent program use, built-in multicompny/multidivision support, and a user-assigned predefined company/division or option to specify company/division. Timely information is ensured through the automatic updating of the G/L from all modules.



A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel

(312) 332-3242

NEAL NELSON & ASSOCIATES

185 N. Wabash, Suite 1908

Chicago, IL 60601

## **Payroll**

**PDP-11 Operating System:** RSTS

**Keywords:** • Payroll

This program provides all the forms, programs, and procedures necessary to perform the payroll function. Menu orientation makes this system easy to learn and simple to use. With the system's effective error reporting and interactive editing of input information, most errors can be identified and corrected before reaching the main system.

Reviewed annually by outside accountants, this system has a complete, easy-to-follow audit trail and is continually kept up to date. Comprehensive reporting includes year-to-date and quarter-to-date registers, preliminary and final payroll journals, earnings and labor distribution reports, deductions reports, and a variety of reports on historical information.

The program can be run stand alone or can be interfaced with a companion general ledger system. The documentation includes detailed operating procedures, flow diagrams, file layouts, report samples, program operating instructions, and a dictionary of data and terms used in the system. Complete support and training are available.

A version of this product is available for VAX computers.

**Price:** \$2500 - \$3500

**Contact:** Sharen Robinson, Sales Assistant

(219) 935-5121

PLYCOM SERVICES, INC.

P.O. Box 160

Plymouth, IN 46563

## **Payroll (Canadian)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Employment • Payroll • Personnel

This system, which meets the requirements of Canadian companies, is based on an employee master file and a time-recording transaction file. The employee master file stores personnel information, fixed payroll deductions, year-to-date accumulations of taxes and deductions, and miscellaneous codes for salaried employees only. The time-recording transaction file stores the input of time card data for hourly employees. The files integrate to produce checks and payroll journals for hourly employees. The system meets requirements for hourly, salaried, and

executive employees. Labor expense for salaried employees can be allocated on a percentage basis to certain departments. Direct labor expense is distributed for hourly employees through time card entry.

The system allows custom selection of deductions, benefits, personnel data, and other items by employee. The payroll can be run weekly, biweekly, monthly, or semimonthly. Audit trails can be generated showing all payroll transactions and changes to the employee master file. In addition, the previous 52 weeks of UIC insurable earnings are automatically calculated and stored by employee to facilitate issue of separation certificates.

The Payroll system interfaces to the General Ledger through transactions that are automatically generated for all payroll earnings and deductions. High-level security restricts access to unauthorized users. Printing features include T-4 forms, the preedit report, payroll and check registers, General Ledger report, and payroll history report. Descriptions of earnings and deductions are printed by the check-writing program. Thus, descriptions do not need to be preprinted on the check stub. Changes or additions to employee earnings and deductions are accommodated as well.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$15,000

**Contact:** Tom Muskiluke  
(519) 893-4200

DIGITAL BUSINESS COMPUTERS  
133 Manitou Drive  
Kitchener, Ontario N2C 1L4 Canada

## **Payroll System**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Payroll • Taxes

This total payroll system records pay-period hours, pay, and taxes; allows for weekly, biweekly, semimonthly, and monthly pay frequencies and for hourly, salary, and salary with overtime pay types; provides for calculation of federal, state, and local taxes, tax exceptions, and up to 18 authorized deductions; provides for overrides at entry time of rate, salary, and department; has menu-driven entry and maintenance systems; provides for security passwords to control access, complete reporting and audit trail, and automatic master file backups; and performs extensive on-line editing and easy interactive reporting of all files.

A version of this product is available for VAX computers.

**Price:** \$3000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544



RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **Payroll/Checkwriting System**

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Payroll • Telecommunications

Memory required: 256K.

This system simplifies payroll processing by providing operational efficiency and reliability with the maximum flexibility and responsiveness for any payroll requirement. System features include security password protection, automatic calculations, check printing, check register, payroll journal, labor distribution report, 941-A and W-2 tax reports, detailed audit listings, multistate processing, employee history data, vacation, sick pay, hours and dollars year to date, user-controlled tax tables, and automatic salary entries.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$2450 - \$4500

**Contact:** John M. Cohen  
(404) 448-5259

COMMUNICATIONS SOFTWARE, INC.  
2388 Pleasantdale Road  
Atlanta, GA 30340

### **PAYSOLVE (Payroll)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Payroll

This comprehensive, easy-to-operate payroll package is written in COBOL and meets all existing statutory requirements. PAYSOLVE can be used for weekly, fortnightly, monthly, lunar monthly, and quarterly payrolls and year-end procedures. The package offers full up-to-gross calculation, including 99 pay elements, such as overtime, holidays, sickness, bonuses, and so on, as well as complete gross-to-net calculation — tax, NI up to nine pension schemes, and rounding. Open-format payslips, checks, analyses, summaries, and so forth are provided, as are user-generated reports and maintenance procedures. Security is maintained through passwords and checks on non-paid/highly paid staff. Full SSP facilities and BACS are provided. Also available are optional labor costing and automatic normal ledger interfacing (to SCC General Package or FINCON/IMPCON).

A version of this product is available for VAX computers.

**Price:** £3500 - £16,000

**Contact:** M. J. Bradley  
0905 53335

STAVELEY COMPUTING  
Blackpole Road  
Worcester WR3 8TH England

**Perspective/700 Accounts Payable**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Cost accounting  
• Financial analysis

This system provides expense control, cash management, and simplified accounting procedures for multiuser, multicompartment organizations. The system automatically computes multiple vendor discounts, schedules invoices for payment, posts to General Ledger, handles repetitive payments, and allows automatic or manual expense distribution to G/L.

Features of the system make payment easy. The system allows vendor class codes, discounts and freight itemized by vendor and invoice, and duplicate invoice checking. Complete accounting controls, computer check writing, and a check register are also included. The system can handle partial and selective payments. Other features include a cash-requirement forecast, an interface to Purchasing, foreign-currency conversion, and generation of federal 1099 forms.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$5000

**Contact:** Michael B. Andelman, President  
(312) 953-2220

LIOCS CORP.  
246 E. Janata Boulevard  
Lombard, IL 60148

**Perspective/700 Accounts Receivable**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing  
• Financial analysis

This system provides up-to-the-minute credit status to help streamline collection activities and the timely production of customer statements and financial statements. This flexible multiuser, multicompartment system supports open-item or balance-forward accounts, selective finance charges and statements, and unpaid or partially paid invoices. Plus, the system allows on-line inquiry of customer account status and history by customer name, account number (and, for VAX users, zip code and telephone). Special pricing is allowed for individual customers. The system also calculates prompt payment discounts and volume discounts. The system allows balance and control points and on-line posting of cash receipts.

The system performs many tasks automatically, such as the automatic invoice update from the Order Entry system and the automatic sales tax reporting for taxable and nontaxable accounts. The system can also



generate a detailed aging list and perform exemption reporting to highlight problem areas.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$5000

**Contact:** Michael B. Andelman, President  
(312) 953-2220

LIOCS CORP.  
246 E. Janata Boulevard  
Lombard, IL 60148

### **Perspective/700 General Ledger**

**PDP-11 Operating System:** RSTS

**Keywords:** • Financial planning • General ledger • Inventory  
• Order processing

This system can help you control your business with comprehensive up-to-date financial information. Information is maintained for current year, previous year, and budgets, allowing analysis of current-year performance versus previous-year or business plan objectives. Combined with DIGITAL's DATATRIEVE Report Writer, Perspective/700 General Ledger allows you to design your own reporting format for income statement, balance sheet, and additional financial reports. The system is versatile and easy to learn.

The system provides a monthly profit-and-loss balance sheet, trends by month and history for 26 accounting periods, comparison to previous periods, 13 accounting periods (optional), and a fiscal year different from the calendar year. This system also handles multiuser, multicompny reporting and provides complete audit trails, a comparison of actual to budget, and multiple levels of consolidation. The chart of accounts features a user-defined account number format. Recurring entries are allowed, and the system is automatically updated from all Perspective/700 applications. The system also includes security features.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$5000

**Contact:** Michael B. Andelman, President  
(312) 953-2220

LIOCS CORP.  
246 E. Janata Boulevard  
Lombard, IL 60148

### **PHENIX PASS**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Cost accounting • Financial management

This assets accounting system features a complete register of assets; historical or current cost methods; various depreciation bases; an interface to nominal ledger; group assets, consolidations, transfers,

and part disposal; comprehensive reports; inquiry facilities; and reminders.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** T. J. McAllister  
(44) 232-247433

SOFTWARE IRELAND LTD.  
26 Linenhall Street  
Belfast BT2 8PJ Northern Ireland

### **Pioneer COMMAND Accounts Payable Module**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable

This module, developed by Pioneer Software International, is an interactive, on-line, user-friendly, comprehensive account-management system. The module can be installed stand alone or as part of Pioneer's COMMAND System for Financial Management, Distribution, and Manufacturing. Pioneer's COMMAND System is written in BASIC-PLUS-2 and requires a minimum of 128K words. Because the system is based on UserWare International's USER-11 Database Management System, extensive on-line inquiry and ad hoc reporting are available.

The Accounts Payable module allows for extensive flexibility in dealing with individual accounts, which can be either balance forward or open item. Outstanding transactions are aged into six periods. The module provides for unallocated payments and for partial payments. A variety of screen displays are available for reviewing vendor balances, account status, or detailed data on selected transactions. Cash-requirements reports, audit statements, disputed-invoices list, address labels, checks, general ledger summary, and other reports are available. The module automatically interfaces with Purchase Order Processing and General Ledger.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$10,000

**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006

USERWARE INTERNATIONAL  
2235 Meyers Avenue  
Escondido, CA 92025

### **Pioneer COMMAND Accounts Receivable Module**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable

This module, developed by Pioneer Software International, is an interactive, on-line, user-friendly, comprehensive customer-account management system. The module can be installed stand alone or as part of



Pioneer's COMMAND System for Financial Management, Distribution, and Manufacturing. Pioneer's COMMAND System is written in BASIC-PLUS-2 and requires a minimum of 128K words. Because the system is based on UserWare International's USER-11 Database Management System, extensive on-line inquiry and ad hoc reporting are available.

The Accounts Receivable module allows extensive flexibility in dealing with individual or groups of accounts. Individual customers can be assigned to a group account to facilitate central statement production. Cash received from group accounts can be distributed over individual balance-forward or open-item accounts. Outstanding transactions are aged into six periods. The module provides for unallocated cash and debit/credit transactions, including returned checks, invoices, debit memos, and debit and credit adjustments. Screen displays are available for reviewing customer balance, account status, or detailed data on selected transactions. Aged accounts receivable, credit limit, and other reports are available. The module automatically interfaces with Sales Order Processing and General Ledger.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$10,000

**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006

USERWARE INTERNATIONAL

2235 Meyers Avenue

Escondido, CA 92025

### **Pioneer COMMAND General Ledger Module**

**PDP-11 Operating System:** RSTS

**Keywords:** • General ledger

This interactive, on-line, and user-friendly module, developed by Pioneer Software International, provides a comprehensive set of corporate financial and management accounting reports for all levels of management. The module can be installed stand alone or as part of Pioneer's COMMAND System for Financial Management, Distribution, and Manufacturing. Because the system is based on UserWare International's USER-11 Database Management System, extensive on-line inquiry and ad hoc reporting are available.

The General Ledger module handles multicompany and multi-cost center (department or branch) accounts. Provisions are made for last year's results and for budgets and budget revisions. The module supports 12 or 13 operating periods. The user-defined account code can be up to 25 characters long. For accounts used frequently, a short look-up code of up to four characters can be used. Fixed journal entries (accruals and reversals) can be recorded in a fixed journals file, which also contains details of the accounts and periods affected. Those amounts can be spread on a percentage basis over several accounts. Budget records can be integrated for any account, using individual values or

percentages of an annual value. Screen displays are available for reviewing account balances and showing account detail and budget information. Trial balance, income statement, balance sheet, and audit reports are available. A financial report generator provides a flexible means of reporting any value or combination of values in any of the financial records. The module automatically interfaces with each of the other COMMAND modules. Complete documentation is available to facilitate interface to other user-written applications.

A version of this product is available for VAX computers.

**Price:** \$4000 – \$12,000

**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006

USERWARE INTERNATIONAL

2235 Meyers Avenue

Escondido, CA 92025

## **Plycom Core Accounting Systems**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Payroll

These simple yet flexible packages were designed by accountants for accountants. Operation is interactive, uses extensive prompting, and fully utilizes RSTS/E and VMS yet retains security and ease of recovery of batch and manual systems. Batch controls are on all data, accounting controls are preserved, interim data is held separate until verified and then passes into the regular files, an excellent audit trail exists throughout, and the file and report structure divides information into the user's own traditional accounting periods.

- Accounts Receivable allows complete receivables control through varied account reports, on-line inquiry by customer number or name, flexible yet controlled entry of cash receipts, numerous customer options (balance forward or open item, customer type, credit limit, and so on).
- Payroll provides easy maintenance of employee records, multiple payrolls, labor distribution reports by distribution code or pay type (regular, premium, and other) within department and division, excellent printer control for special forms, and user-defined deduction and labor codes.
- Accounts Payable allows complete control over discounts, payment scheduling, and cash requirements forecasting; flexible reporting, including past history as well as current information; and excellent printer control for special forms.
- General Ledger provides on-line availability to all journal entries and purchase distributions for the entire fiscal year. Account inquiry for detail or balances automatically feeds the Financial Reporting Package. A complete audit trail from journal entry to Financial Reports includes trial balance and trial balance in 10-column worksheet format for easy period reconciliations.



- **Financial Reporting** includes complete flexibility in statement formatting; multiple formats, with automatic feeding from regular, history, or budget general ledgers; and comprehensive multientity reporting with multilevel consolidations, eliminations, or adjustments.
- **Fixed Assets** includes all the programs, forms, and procedures necessary for complete asset reporting; accommodates reporting assets for both book and tax purposes; and includes depreciation forecasting and an automatic interface to the General Ledger.

A version of this product is available for VAX computers.

**Price:** \$2500 – \$17,500

**Contact:** Sales Representative  
(219) 935-5121  
PLYCOM SERVICES, INC.  
P.O. Box 160  
Plymouth, IN 46563

### **PM11 Accounts Receivable**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts receivable • Credit • Financial analysis  
• Financial planning

This package maintains an open-item file that is updated in an on-line interactive mode and provides aging by invoice (transaction) date, invoice-due date, or cash-discount date. Reports can be generated for each of those options. This package can be linked with the Order Entry package to automatically update customer balances when invoices and credit memos are prepared.

A 10-character alphanumeric account code accommodates various coding schemes to help access a series of customer accounts or sequence accounts for more meaningful reporting. A powerful inquiry capability provides up-to-date status of customer account balances, open items, sales history, credit limit, and similar indicative and financial data. Customer statements include all open items, summary account aging, and a turnaround document to help apply cash receipts to open items. Cash receipt action codes and a reporting capability are also provided.

**Price:** \$2500

**Contact:** Victor Goldberg  
(212) 872-7732  
PEAT, MARWICK, MITCHELL & CO.  
345 Park Avenue  
New York, NY 10154

### **PM27 Accounts Payable**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts payable • Financial analysis  
• Financial planning • General ledger

This package is used with the General Ledger package, offering the advantage of a single posting. A 10-character alphanumeric code accommodates various coding schemes to help access a series of vendor accounts or sequence accounts for more meaningful reporting. A combination of programs provides a simple yet flexible system for selecting items for payment and for monitoring cash flow. Distribution of invoice amounts allows multiple General Ledger accounts from the same invoice. Next-period processing is offered. A powerful inquiry capability provides an up-to-date status of unpaid invoices aged as current and 12 past-due periods. Edits and batch input controls ensure the validity and accuracy of input data and audit trails of all transactions identified by source, reference number, month, and batch.

**Price:** \$2500

**Contact:** Victor Goldberg  
(212) 872-7732

PEAT, MARWICK, MITCHELL & CO.  
345 Park Avenue  
New York, NY 10154

### **PM28 General Ledger/Financial Reporting**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Financial analysis • Financial planning  
• General ledger

This package is highly flexible, simple to operate, and responds to management's essential reporting needs.

A 10-character alphanumeric account code accommodates variously structured charts of accounts and provides for multiple subsidiaries, departments, cost centers, and locations. A budget capability accommodates budgets in whole dollars for 13 reporting periods, enabling comparison of actual expenditures against predetermined budgets. Prior-period comparisons enable current-period results to be compared with prior years' results. Reporting flexibility is attained through a report file, which allows reports to be structured by department, cost center, product line, individual divisions, company consolidations, or pro forma supplemental financial schedules. Future-period processing allows entry of transactions of 11 or 12 periods into the future. Controls and audit trails provide for edits and batch-balancing controls to ensure the validity and accuracy of data. An inquiry capability provides up-to-date status of individual General Ledger account balances, budgets, account descriptions, and group total designations. Percent-to-total calculations allow any account or total of a group of account balances to be used as either a denominator or a numerator for a percent-to-total calculation.

**Price:** \$3500

**Contact:** Victor Goldberg  
(212) 872-7732



PEAT, MARWICK, MITCHELL & CO.  
345 Park Avenue  
New York, NY 10154

**Pro-Accountant: Modular Integrated Accounting System**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX,  
RT-11

**PRO Operating System:** P/OS, RT-11

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Inventory

Memory required: 512KB minimum.

This system, written in BASIC-PLUS-2, provides general ledger, accounts payable, accounts receivable, order entry/invoicing, inventory, purchasing, payroll, client billing, and a help facility.

A version of this product is available for VAX computers.

**Price:** \$895 - \$16,480

**Contact:** Phillip H. Goldstein  
(714) 730-5116

DECCOMP, INC.  
14752 Sinclair Circle  
Tustin, CA 92680

**PRO-IV Accounts Payable**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Accounts payable

Written in PRO-IV, a powerful and easy-to-use fourth-generation language, this package provides accurate information for close control over cash disbursements and the related accounting functions that simplify financial planning. Vendor information, such as payment and discount terms and vendor and invoice history, is retained in a master file. The system records invoices, prevents duplicates, develops payment schedules, prints and reconciles checks, tracks manual checks, controls update postings to the general ledger in daily summary amounts, controls cash flow by working varying payment terms and schedules with vendors, reduces interest expenses and increases profits by tracking and automatically using vendor discounts, provides manual or automatic invoice payment, and generates the cash-requirements report before check processing for optimum control and flexibility (manual selection allows partial or full payment of individual invoices).

A version of this product is available for VAX computers.

**Price:** \$700 - \$15,000

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.  
23181 Verdugo Drive, Suite 101  
Laguna Hills, CA 92653

### **PRO-IV Accounts Receivable**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Accounts receivable

Written in PRO-IV, a powerful and easy-to-use fourth-generation language, this tool manages cash flow by maintaining comprehensive customer data and by tracking customer payment and balance history records. As a stand-alone module, AR tracks open invoices, balances, cash receipts, credit memos, returned checks, and sales tax collections. Interest charges can be computed and charged against accounts automatically. Cash receipts can be entered daily. The system allows for payment on account and partial or full payment of specific invoices. All invoices remain on the system until fully paid. Customer data includes address, telephone, contact person, salesperson assigned, complete sales history, credit and payment information, and statement cycle. Using AR with PRO-IV Sales Analysis and PRO-IV Order Processing allows you to track sales commissions and recall extensive data to help you spot trends and areas of opportunity. With General Ledger installed, receivables information can be posted automatically.

A version of this product is available for VAX computers.

**Price:** \$700 - \$15,000

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.  
23181 Verdugo Drive, Suite 101  
Laguna Hills, CA 92653

### **PRO-IV Fixed Assets**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Fixed assets • Investments

This comprehensive and flexible tool manages information to control investments. Written in PRO-IV, a powerful and easy-to-use fourth-generation language, this application posts transactions to any fiscal period in four years; tracks asset code, description, and location; provides various depreciation methods (straight line, declining balance, sum-of-the-year's digits, and ACRS); and supports vendor code, general ledger asset and contra accounts, and investment tax credit amount. When installed with GL, either the book or the tax depreciation register can be automatically posted to GL.

A version of this product is available for VAX computers.



**Price:** \$525 – \$11,250

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.  
23181 Verdugo Drive, Suite 101  
Laguna Hills, CA 92653

### **PRO-IV General Ledger with Financial Report Writer**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • General ledger • Report writer

This module is suitable for multicompany applications and provides both departmental and companywide financial statements and consolidated companies reporting. Written in PRO-IV, a powerful and easy-to-use fourth-generation language, this application provides a user-defined fiscal calendar and variable-length account code structure and posts transactions to any fiscal period in four years. GL maintains budgets and complete audit trail documents, performs trial balance functions, and provides a comprehensive financial report writer.

A version of this product is available for VAX computers.

**Price:** \$700 – \$15,000

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.  
23181 Verdugo Drive, Suite 101  
Laguna Hills, CA 92653

### **PRO-IV Inventory Control**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Inventory • Warehousing

This comprehensive, multiwarehouse system provides up-to-date balances and comprehensive valuation statistics to enable you to effectively manage any size inventory. Written in PRO-IV, a powerful and easy-to-use fourth-generation language, this application provides and tracks unique item code (up to 15 alphanumeric characters), complete item description, category, weight, taxable status, commission status, primary and secondary vendors, primary and secondary alternate items, pricing table (standard cost, weighted average, LIFO, and FIFO), discount code, buy and sell units of measure, warehouse code, reorder quantity, and all current sales and activity data.

A version of this product is available for VAX computers.

**Price:** \$700 – \$15,000

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.  
23181 Verdugo Drive, Suite 101  
Laguna Hills, CA 92653

### **PRO-IV Order Processing/Invoicing**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Order processing

This tool coordinates orders from receipt through shipping and invoicing. Written in PRO-IV, a powerful and easy-to-use fourth-generation language, this application provides tracking functions for all order processing operations. Upon order entry, the system accepts shipping data and generates invoices, customer acknowledgments, and shipping papers; provides inventory, pricing, customer credit limit and payment history, and customer addresses and alternates; and automatically displays extensions and item descriptions. Inventory checks are made automatically for each order, with options for alternate sources, drop shipments, substitute items, and back orders. Discounts and sales tax are computed; invoices are posted to A/R; and picking sheets, fully costed invoices, and packing slips are printed. Order processing allows invoicing for shipping confirmation of orders or direct creation of invoices without orders on file.

A version of this product is available for VAX computers.

**Price:** \$700 - \$15,000

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.  
23181 Verdugo Drive, Suite 101  
Laguna Hills, CA 92653

### **PRO-IV Purchase Order**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Purchasing

This tool systematizes and automates the production of purchase orders and lets you evaluate a range of purchasing variables and make necessary adjustments. Written in PRO-IV, a powerful and easy-to-use fourth-generation language, this application provides automatic or user-assigned P.O. numbers, multiple P.O. formats, alternate vendor shipping addresses, multiple ship-tos, drop shipments, and stocked and nonstocked inventory items. You can display the status of stocked and nonstocked inventory items and the status of purchase orders by vendor and by inventory line item. Because the module shares the Accounts Payable Vendor File, AP notes when orders are received into inventory, so that cancelled, incomplete, or delayed orders are never lost.

A version of this product is available for VAX computers.



**Price:** \$700 – \$15,000

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.

23181 Verdugo Drive, Suite 101  
Laguna Hills, CA 92653

### **PRO-IV Tax Management**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Planning aids • Taxes

This complete tax management and preparation program provides full-screen data entry, automatic validation, and comprehensive tax planning. Written in PRO-IV, a powerful and easy-to-use fourth-generation language, this application provides a preinterview data organizer that references IRS form names and line numbers to facilitate data entry. Data screens are like tax forms; supporting schedules are displayed, totals are automatically carried to the 1040, and changes cause automatic recalculation. The system uses all tax tables and rate schedules to find the most advantageous method. You receive annual updates for processing each year's returns (companion state returns are available), IRS-approved forms and schedules, (generated on blank, 1040 on 1040 continuous stock), and letters of transmittal from preparer to client.

A version of this product is available for VAX computers.

**Price:** \$3500 – \$75,000

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.

23181 Verdugo Drive, Suite 101  
Laguna Hills, CA 92653

### **ProBiz™ Accounts Payable**

**PDP-11 Operating System:** Micro/RXS

**Keywords:** • Accounts payable

This series of programs helps manage outgoing cash. When used with other modules, Accounts Payable updates general ledger, vendor, and job cost records as accounts receivable transactions are made. The Accounts Payable module also links to the vendor master module to provide control over the accounts payable function.

Invoices are entered with payment dates, discounts, and general ledger account numbers. A check of existing files before permitting entries prevents duplicate invoice entries. Trial balances feature invoices detailed by vendor. Invoice amounts are listed in columns according to age (current, 30, 60, 90, and 120 days old). Cash requirements look in the other direction in terms of invoices due in 10, 20, or

30 days. Invoices can be keyed for payment by individual invoice, vendor, age, or discount. Invoices can be paid automatically or confirmed individually by the operator. Invoices can be paid in full or in part or marked as prepaid (if a manual check was issued). A historical file of paid invoices can be accessed on the CRT or in hard-copy form. Open invoices from the vendor, with aging data, can be displayed on the CRT.

Printing features include printing registers of entries in entry and in ledger-account sequences. Another check register prints a record of items marked for payment and items entered or flagged as prepaid. Voucher-type checks with details can also be printed.

The vendor master module gives instant access to the list of vendors and provides separate purchase order and payment addresses, contact names, each vendor's terms, a flag on whether a 1099 is required, the number and value of purchase orders, open payables balance, as well as the number and value of purchase orders for the current and past years. The vendor master module also provides a listing of vendors requiring a 1099 and the amounts of payments made to them during the year.

A version of this product is available for the A-to-Z system.

**Price:** \$1500 - \$3000

**Contact:** D. L. Wyse, Vice President  
(513) 890-1800

PROJECTS UNLIMITED, INC.

A Division of Professional Business Software

P.O. Box 14538

Dayton, OH 45414

### **ProBiz™ Accounts Receivable**

**PDP-11 Operating System:** Micro/R SX

**Keywords:** • Accounts receivable

Accounts Receivable provides a hard-copy printout of account aging by customer; customer order number, age of invoice in days, and historical average customer payment time are included. The CRT version includes the age and purchase order of each invoice. The system also features cash-flow projection, using average payment time, to calculate in detail or by customer the cash to be received in 10, 20, or 30 days, as well as past dues and unknowns. Cash discounts and credits can be posted in part or in full, followed by a batch report. Credits can be updated and generated. A list of customers on credit hold (45 days or more) can be produced for the order department. The system also prints statements and dunning letters, tailored to 60 and 90 days, on demand.

If used with order processing, the system will be automatically updated by invoicing. When used with the other modules, Accounts Receivable automatically updates general ledger, sales records, and sales commissions files as transactions are made.

A version of this product is available for the A-to-Z system.



**Price:** \$1500 – \$3000

**Contact:** D. L. Wyse, Vice President  
(513) 890-1800

PROJECTS UNLIMITED, INC.

A Division of Professional Business Software

P.O. Box 14538

Dayton, OH 45414

### **ProBiz™ General Ledger**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • General ledger

The General Ledger module simplifies period and year-end reporting by providing accurate accumulation, by individual profit centers, of your company's financial information. Some of the system's highlights are:

- Hard-copy audit trails provided as a permanent record
- Manual or automatic journal entries by programs for invoicing, payroll, accounts payable, and others, with input journal printed prior to journal updating
- Printing of a report of items in the journal before the ledgers are updated, giving a batch total, as well as detail
- A month-end journal by general ledger number report that details each entry to each ledger account
- Producing of trial balance, balance sheet, income and expense report, and profit and loss statement by subsidiary company or profit center, as well as a consolidated format
- Duplicates of those reports with projected budgetary figures, allowing you to plan your business for the coming year and to answer hypothetical budgetary questions
- Printing of budget or actual report by company or by department

A version of this product is available for the A-to-Z systems.

**Price:** \$2000 – \$3500

**Contact:** D. L. Wyse, Vice President  
(513) 890-1800

PROJECTS UNLIMITED, INC.

A Division of Professional Business Software

P.O. Box 14538

Dayton, OH 45414

### **ProBiz™ Payroll**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • Employment • Payroll • Personnel

This module expedites the routine, multifaceted job of payroll accounting. The system's features include:

- Performance of all payroll functions after initial entry of attendance records either directly or through labor ticket input

- Maintenance of an employee file containing names, addresses, rates, exemptions, totals of eight deductions, and vacations
- Initiation of the payroll process with attendance entry and printout of attendance register
- Calculation of complete payroll, followed by printing of registers for payroll, deductions, vacations, paychecks, and departmental distribution
- Check printing and employee file updating
- Quarterly and year-end reports — printout of 941—As, W-2s, and reports for city tax, state tax, semiannual workers' compensation, and quarterly employee payroll summary
- Inclusion of many personnel-related functions
- Employee seniority, birthday, vacation status, sick-leave status, and payroll and personnel data reports
- Employee performance review schedule showing employee reviews as scheduled for any designated month
- Alphabetical employee list of names and addresses

As a single, comprehensive source for essential payroll information, the Payroll module offers a tremendous speed advantage over manual payroll processing.

A version of this product is available for the A-to-Z systems.

**Price:** \$1500 — \$4500

**Contact:** D. L. Wyse, Vice President  
(513) 890-1800

PROJECTS UNLIMITED, INC.

A Division of Professional Business Software

P.O. Box 14538

Dayton, OH 45414

## **ProBiz™ Purchasing Management**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • Distribution • Inventory • Manufacturing  
• Purchasing

This series of programs manages purchase orders from the time they are placed until all items have been completed. The system's features include:

- A purchase order entry sequence that directs the entry of the order, checks vendor terms and, if used with parts master and work-in-process modules, updates the WIP and either raw-material parts records or finished-goods items with quantity ordered, purchase order number, and price
- Printing of an order entry log and the required purchase orders, which note whether the orders are confirming a previous purchase order, so as to eliminate double shipments
- Printing of an order that is on the books or displayed by vendor
- Delivery exception, status by purchase order, completed purchase order, and open purchase order reports
- Flagging of an order received and each item as partial or complete



- Updating of work-in-process and parts master, if used with quantity received and quantity still on order
- Updating of vendor records with open purchase order balance, purchase order balance for year to date, number of open purchase orders, and number of purchase orders for year to date
- A part-search program that scans the purchase order file for outstanding orders containing a given part number
- Purchase order follow-up for late deliveries, which includes a letter asking when the order will be shipped
- A cash-flow projection based on delivery of scheduled material, as well as invoice due date, plus 30 days

The Purchasing Management module is directly linked to the vendor master module, providing another source on which to base purchasing decisions.

A version of this product is available for the A-to-Z system.

**Price:** \$1500 - \$4500

**Contact:** D. L. Wyse, Vice President  
(513) 890-1800

PROJECTS UNLIMITED, INC.

A Division of Professional Business Software

P.O. Box 14538

Dayton, OH 45414

### **PTB (Professional Time and Billing)**

**PDP-11 Operating System:** RSTS, RT-11, TSX-PLUS™

**Keywords:** • Accounts receivable • Billing • Report writer

This package tracks and invoices professional time/units to specific jobs. The invoicing function automatically updates Accounts Receivable.

Staff hours/units can be billed to a job at up to 10 rates. Prebilling sheets listing the current status and all past activity to the job are produced. As activities are selected for billing, writeups/offers are entered.

PTB produces numerous management and job reports. Management reports, many of which are designed with plotting capabilities, include staff and department productivity reports, comparisons of time and actual cost for each service performed, comparisons of job estimates to actual costs, service code summaries, and project, market, and company profit reports. Accounts receivable reports include aged trial balance, client status, monthly cash, and sales summary. Job reports include client and job address cross-reference, market and department job listing, and jobs by date promised.

PTB allows a maximum of 99,999,999 jobs, 999,999 clients, and 999 staff members.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$5000 - \$8000

**Contact:** Dwight Johnson  
(303) 574-8086

**PROFESSIONAL COMPUTER SERVICES**

2345 N. Academy, Suite 209  
Colorado Springs, CO 80909

**Purchase Order Accounting**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Manufacturing • Purchasing

This fully integrated, on-line, multiuser UNIX\*-based purchase order accounting system prepares purchase orders, maintains records of expected delivery dates, accepts receipts information, and provides reports of items that need review. The system provides for both multiple and partial receipts, back orders, returns, allowances, adjustments, and items damaged during shipment. Open-order analysis reports are available by product, vendor, or buyer. A change-in-status report by item can be produced, showing open purchase orders at start of period, new orders, receipts, and open purchase orders at end of period. That order can be organized by item, by item within vendor, or by item within buyer. Future orders can be entered, and stock-requirements reports can be printed to assist with long-range manufacturing plans.

Also available are a print key providing hard copy of any screen image, true multiuser design for concurrent program use, built-in multicompany/multidivision support, and a user-assigned predefined company/division or option to specify company/division. Timely information is ensured through the automatic updating of G/L from all modules.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel  
(312) 332-3242

**NEAL NELSON & ASSOCIATES**

185 N. Wabash, Suite 1908  
Chicago, IL 60601

**Random-Number Generator**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Audit • Mathematics • Statistics

This program enables the accountant preparing for an audit to quickly and easily select random samples of checks, invoices, journal entries, and so on. The basis for generating the random-number tables is a seed number, an unbiased 6-digit number, such as your birth date or the hour of the day. Optionally, the system will generate the seed number if manual entry is not desired.



The Random-Number Generator offers simplicity of operation and automatic reporting and provides for a valid statistical sampling of transactions. The system features:

- Menu application selection
- Generation of up to 100 random-number schedules for each batch
- Sample size range to four digits
- User-selected output — unsorted output without sequence numbers, sorted output with or without sequence numbers, unsorted and sorted output
- User-selected formats — nonoverlapping series, overlapping series, page/number series, alphanumeric series

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls  
(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL  
114 E. Gregory Street  
Pensacola, FL 32501

### **RAS (Receivable Accounting System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Education • Government

This financial and administrative package is designed for colleges, universities, school boards, municipalities, and paragonovernmental agencies. RAS features centralized, on-line cash receipts; open-item accounts receivable; multiinvoicing system capability; multilevel inquiry; automatic interface to BAS (Budgetary Accounting System); user-defined interest calculation parameters; and automatic application of open credit notes.

A version of this product is available for VAX computers.

**Price:** \$15,000 (Canadian)

**Contact:** Dennis Sakamoto  
(416) 666-3833

S.R.B. INTERNATIONAL LTD.  
Whitby Corporate Centre  
209 Dundas Street E., Suite 205  
Whitby, Ontario L1N 7H8 Canada

### **Report Writer**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11

**Keywords:** • Report writer

This product allows the user to define customize reports, based on any combination of fields found in records contained in the financial data base files. Up to six data base files can be accessed at a time. Mathematical operations as well as sorting and updating actual programs can be written using the Report Writer commands. Report Writer interacts with other Armadale business packages programmed in Pascal II.

A version of this product is available for VAX computers.

**Price:** \$1500 – \$3000

**Contact:** Michael G. Sifton  
(416) 477-8000

ARMADALE SYSTEMS INC.  
Toronto Buttonville Airport  
Markham, Ontario L3P 3J9 Canada

### **Reporter**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Forms management • Management  
• Report writer

This full-featured report generator for use with any DSF software allows the user to custom design almost any type of report. When Reporter is used with the many reports supplied by DSF software, the accountant can produce a wide variety of useful management reports.

Reporter features:

- Easy-to-use menu-driven operation
- Multifile access capability
- Line-by-line report definition
- Up to nine levels of totals
- Autoformatting or user formatting of print positions of all data elements
- Run-time specification of ranges of data
- Conditional checking (greater than, less than, and so on) of data elements against a constant or other data element

**Price:** \$2500

**Contact:** Van Morris  
(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL  
114 E. Gregory Street  
Pensacola, FL 32501

### **RMS-7**

**PDP-11 Operating System:** RSTS

**Keywords:** • Banking • Credit

ECOM Systems provide turnkey systems to credit unions. The basic credit union system provides for the processing of share, loan, and certificates. Optional modules include interface programs to general ledger, ATM (proprietary and switch), audio response, automated share draft, and bill payer.

A version of this product is available for the VAX computer.

**Price:** \$19,800 – \$500,000

**Contact:** Jack Kreamer, Vice President  
(901) 794-5501



ECOM SYSTEMS, INC.  
2500 Mt. Moriah Road, Suite 720  
Memphis, TN 38115

### **SACCPAY (Accounts Payable Package)**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Accounts payable • Audit • Financial analysis

The Accounts Payable Package keeps track of your outstanding invoices, generates checks to pay those invoices according to various user-selectable parameters, and keeps historical records of your purchases throughout the year. An easily maintained Vendor Master File records not only the name and address but also the phone number and contact name for purchasing departments when placing orders. The package has full audit trail capabilities, as well as Aged Analysis, Open Item, and Purchasing Detail reports. Distribution and inventory codes are handled. A custom Check Printing Program can handle your complete accounts payable needs. Custom enhancements are available to "fine tune" this system to your requirements.

**Price:** \$3500

**Contact:** David Simmons  
(705) 737-2011

SIGMATICS COMPUTER CORP.  
56 Little Lake Drive, P.O. Box 1046  
Barrie, Ontario L4M 5E1 Canada

### **SACCREC (Accounts Receivable Package)**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Accounts receivable • Audit

The Accounts Receivable Package is designed for flexibility. The invoice and cash receipt batch data entry programs give a complete audit trail, and the Customer Master File is easy to maintain. The system has an automatic service charge capability and handles debit and credit notes. The package includes a wide range of historical and sales summary reports. Division, group, salesperson, customer code, customer class, item, and invoice number in many varied combinations on the reports allow for excellent control and study of your accounts receivable. Custom enhancements are available to "fine tune" this system to your requirements.

**Price:** \$3500

**Contact:** David Simmons  
(705) 737-2011

SIGMATICS COMPUTER CORP.  
56 Little Lake Drive, P.O. Box 1046  
Barrie, Ontario L4M 5E1 Canada

## Safe Deposit Boxes Billing

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Banking • Billing

This program keeps track of leased and unleased safe deposit boxes and other information about them and handles status reports and billing. With this program, you can easily handle opening and closing boxes, billing and receipts, club accounts discounts, and miniaccounting for rental income, key deposits, and club discounts.

Report generation is available for leased and nonleased boxes, club account boxes, item (box #) and alphabetic listings of box holders, summary of boxes by rental amount, and journal reports of financial activity by entry number range, by date, and by account.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$1000 - \$2500

**Contact:** Leland T. (Tom) Smith, President  
(512) 692-0953

DATA PROCESSING SERVICES, INC.  
8746 Wurzbach Road, Suite 203  
San Antonio, TX 78240

## Sauer Library

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Order processing

The Sauer Library is based on the Key/500 data base management system. The library includes a coordinated set of accounting packages that are delivered in source code.

In addition to Key/500, the library consists of order processing, accounts receivable, accounts payable, inventory accounting, general ledger, and payroll packages. Those components can be used individually or as an integrated set.

**Price:** \$6000

**Contact:** Roger W. Gruen, Vice President  
(800) 325-9494

SAUER COMPUTER SYSTEMS  
1750 S. Brentwood  
St. Louis, MO 63144

## SGENLED (General Ledger Package)

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Audit • General ledger

This simple-to-use package handles virtually any type of business. SGENLED has division-handling capabilities and gives two levels of audit trail: the Edit List of entries in the order of entry and the General Ledger Report of the entries by account, complete with opening and



closing balances. The user can format the reporting of assets and liabilities on the balance sheet to give heading and totaling combinations. The Statement of Operations gives sales, cost of sales, income, and expense reporting the same heading and totaling capabilities. Custom enhancements are available to "fine tune" this system to your requirements.

**Price:** \$3500

**Contact:** David Simmons  
(705) 737-2011

SIGMATICS COMPUTER CORP.  
56 Little Lake Drive, P.O. Box 1046  
Barrie, Ontario L4M 5E1 Canada

### Suspense Ledgers

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Banking • Credit • General ledger  
• Report writer

Accounting departments in every large institution often receive debits without credits or vice versa. Many institutions track those lone items by using suspense ledgers, which are really suspense journals. In suspense journals, lone debits are matched with entries in the credit suspense ledger, and lone credits are matched with entries in the debit suspense ledger. Books will thus be balanced until accounts can be debited or credited to match the line entries. Then the old entry is cleared from the appropriate journal, and the correct account is debited or credited. Thus, close tabs can be kept on the amount of money that is in suspense.

The Suspense Ledgers system has facilities for making entries into a ledger (on a TRX file basis), clearing entries from the ledger by entry amount and by entry number, forced clearing of entries by date, and generating reports for outstanding (uncleared) entries, cleared entries, entries in entry-clear order (each entry is followed immediately by the entry that cleared it), and aged suspense entries.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$1000 - \$2500

**Contact:** Leland T. (Tom) Smith, President  
(512) 692-0953

DATA PROCESSING SERVICES, INC.  
8746 Wurzbach Road, Suite 203  
San Antonio, TX 78240

### TBS Accounts Payable System

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX,  
RT-11, TSX-PLUS™

**PRO Operating System:** RT-11

**Keywords:** • Accounts payable • General ledger

This system, which automatically interfaces to the TBS G/L System, maintains a full vendor file, including the alphabetical vendor list, full accounts file, and job file; has CRT entry of new payables and CRT inquiry by vendor and automatic voucher number and batch control totals; distributes payables by G/L account and optionally by job number; allows payables to be selected for payment by type or individually, with selected items deferred; allows the use of multiple A/P, cash, and discount accounts; and contains a check-reconciliation module.

The Accounts Payable System also prints the A/P voucher register, A/P aged trial balance, A/P distribution report in detail or summary form, and the A/P job distribution, cash disbursement, and cash-requirements reports. The system also prints the check-verification report before check printing, prints checks with invoice details on the stubs, and prints the check register, which shows all computer-written, handwritten, and voided checks.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$995 - \$2500

**Contact:** Larry Jones  
(818) 352-6058

THETA BUSINESS SYSTEMS  
9947 Commerce Avenue  
Tujunga, CA 91042

### **TBS Accounts Receivable System**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX,  
RT-11, TSX-PLUS™

**PRO Operating System:** RT-11

**Keywords:** • Accounts receivable

This system, which automatically interfaces to the TBS G/L System, includes customer account features, printing capabilities, and accounts receivable functions. The system handles open-item and balance-forward customers; provides full customer file maintenance with an alphabetical list; permits discount, tax, and finance charge percentages to be set to a standard default value or set for each customer; and provides CRT customer account inquiry.

The system also prints sales and cash receipts journals, the customer aging report in detail or summary form, the monthly sales and cash receipts summaries, and the A/R history finance charge, and salesperson commission-due reports. The system permits statements to be selectively printed with aged totals and a tear-off remittance.

Accounts receivable features include separate terms code and ship code maintenance modules and an A/R open file that contains full transaction details. The system automatically calculates and posts



finance charges, permits on-line entry of cash receipts, and allows partial payments and payments to more than one invoice. Finally, the system permits on-line entry of sales, CR memos, DR memos, and manual finance charges with batch totals for control of transaction flow.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$995 – \$2500

**Contact:** Larry Jones  
(818) 352-6058

THETA BUSINESS SYSTEMS  
9947 Commerce Avenue  
Tujunga, CA 91042

### **TBS General Ledger System**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX,  
RT-11, TSX-PLUS™

**PRO Operating System:** RT-11

**Keywords:** • General ledger

This system, which automatically interfaces to the TBS A/R, Payroll, and A/P Systems, includes user-designed features, printing functions, and general ledger tasks. The system maintains a full chart of accounts with a 7-digit account number and a 3-digit subaccount number for profit center or cost centers; permits user-generated wording and formats on financial statements and up to 13 user-defined accounting periods; provides CRT entry of G/L transactions, which can be edited before posting and with running balance displayed during entry; allows CRT inquiry into accounts by period; and includes a recurring-entries module. The system also prints the G/L Transaction Register; the G/L Trial Balance with work space for adjustments; the G/L List, selected by account number or date with detail or summary; the G/L Analysis by source; and the Balance Sheet, Profit and Loss Statement, Supporting Schedules, and Source and Application of Funds reports.

The system automatically distributes transactions to accounts on a percentage basis, automatically generates counterbalancing entries, and handles accrual reversals.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$995 – \$2500

**Contact:** Larry Jones  
(818) 352-6058

THETA BUSINESS SYSTEMS  
9947 Commerce Avenue  
Tujunga, CA 91042

### **TBS Payroll Accounting**

**PDP-11 Operating System:** Micro/RSTS, Micro/RX, RSTS, RX,  
RT-11, TSX-PLUS™

**PRO Operating System:** RT-11

**Keywords:** • Payroll • Personnel • Taxes

This system, which automatically interfaces to the TBS G/L System, performs several payroll tasks and printing functions. In addition to maintaining extensive payroll and personal data, the Employer Master File in the system performs other payroll functions, such as permitting CRT entry of time worked and editing of transactions; automatically calculating gross and net pay rates and all standard frequencies; calculating vacation, holiday, sick, and miscellaneous pay; permitting eight standard deductions, which can be prioritized and have maximum limits; and calculating FWT, SWT, FICA, FUI, city tax, and SUI. The user can use the system to reconcile outstanding checks, enter handwritten checks, and void checks.

The system can print paychecks with the Payroll Register detailing payroll calculations, the Check Register, W-2 and 941-A forms, State Tax Registers, and the Payroll History, Labor Distribution, G/L Account Distribution, and Hours History reports.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$995 - \$2500

**Contact:** Larry Jones  
(818) 352-6058

THETA BUSINESS SYSTEMS  
9947 Commerce Avenue  
Tujunga, CA 91042

### **Time Management and Billing**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Billing

This product is written in ANSI standard MUMPS and runs on a wide range of DIGITAL equipment, including micros, minis, and VAXs. This table-driven product records work time expended against projects for clients and multiple-billing rates and produces a worksheet that allows modification before the automatic creation of invoices.

A version of this product is available for VAX computers.

**Price:** \$15,697 - \$73,658

**Contact:** John W. Bishop  
(214) 422-1022

ANTRIM CORP.  
101 E. Park Boulevard, Suite 855  
Plano, TX 75074



## **Timeline Accounts Payable**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Financial management  
• Purchasing • Query facilities

This general-purpose, fully automated accounts payable package was designed by CPAs to be uniquely adaptable to a wide range of reporting requirements. This system can be integrated with the Timeline General Ledger and Financial Reporting system or can be used as a stand-alone system.

This menu-driven management tool adapts to a variety of operating environments to provide accounts payable and cash management information and data base reporting capabilities to obtain custom information. Special features include automated recurring-payments transactions; checks printed for prepayment, partial payment, and installment payment; manual check writing and entry of miscellaneous debits and credits; ages on demand; future and past-due payables on a cash-requirements report; multiple distribution of invoices during entry; optional user-defined fields available for purchase analysis reporting; user-defined on-line historical data; deferred printing; and an integrator program that produces information for posting to a general ledger system.

A version of this product is available for VAX computers.

**Price:** \$2500 - \$5000

**Contact:** Lawson Abinanti  
(206) 822-3140  
TIMELINE, INC.  
10607 N.E. 38th Place  
Kirkland, WA 98033

## **Timeline Accounts Receivable**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing  
• Financial management • Sales analysis

This general-purpose, fully automated accounts receivable package was designed by CPAs to be uniquely adaptable to a wide range of reporting requirements. The system can be integrated with the Timeline General Ledger and Financial Reporting system, using an integration program, or can be used as a stand-alone system.

This menu-driven management tool adapts to a variety of operating environments to provide accounting information to track receivable and sales information and data base reporting capabilities to obtain custom information. Special features include user-defined on-line historical data; deferred printing; forward or open-item accounting for customer balances; an integrator program that produces information for posting to a general ledger system; finance charges automatically calculated by user-defined controls; custom messages for statements or invoices; separate aged balances for current, 30 days, 60 days, or 90

days or over; optional user-defined fields available for sales analysis reporting; sales categories by salesperson and location; and order processing.

A version of this product is available for VAX computers.

**Price:** \$2500 – \$5000

**Contact:** Lawson Abinanti

(206) 822-3140

TIMELINE, INC.

10607 N.E. 38th Place

Kirkland, WA 98033

### **Timeline Fixed Assets**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Financial analysis

• Fixed assets • Taxes

This generalized fixed-asset depreciation and asset management system was designed for accountants by CPAs with extensive experience in income tax and depreciation accounting. The system provides data to account for both book and tax purposes, contains extensive asset management information, calculates depreciation using standard and nonstandard methods, completely accounts for the Accelerated Cost Recovery System (ACRS) of 1981, provides changes to ACRS made in the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), maintains a complete audit trail to ensure accounting integrity, produces journal entries for a general ledger, and provides a variety of proforma calculations and worksheets for tax and business planning.

The programs, written in BASIC, are fully menu controlled, with complete on-line documentation. The flexible, user-friendly report writer produces reports based on selective criteria. Standard reports can be prepared for selective groups of assets; a specific department or company can have separate depreciation reports. Planning is available separately for book and tax purposes. The entry of "budget assets" can be optionally included in depreciation reports. When reports are printed, existing assets are "retired" to analyze the future effect of asset acquisitions.

The system does not try to computerize every tax alternative automatically, because most tax effects require evaluation by a professional tax expert.

A version of this product is available for VAX computers.

**Price:** \$5000 – \$10,000

**Contact:** Lawson Abinanti

(206) 822-3140

TIMELINE, INC.

10607 N.E. 38th Place

Kirkland, WA 98033



**Timeline General Ledger and Financial Reporting****PDP-11 Operating System:** RSTS**Keywords:** • Financial management • General ledger  
• Report writer

The system features data base management, a flexible account-number structure, and 2-way transfer between the DIGICALC spreadsheet (and many other sophisticated spreadsheets) and the accounting data base. New users can maintain their own number structures and convert without programming. The system accepts data from any subsidiary system that can be defined through Timeline's account-number structure, which can have 50 characters and up to 9 parts. Each part can vary in size and have up to 10 characters. Users save time by entering only the parts of the number that are relevant. Each part of the account number can support a subaccount number distinction, such as different departments or projects. Parts are defined in tables, thereby tailoring the system to individual needs without programming.

What-if budget projections made in the DIGICALC spreadsheet are transferred to the General Ledger for production of reports in an audited environment. Journal entries, including allocation journals, are created in DIGICALC and "posted" through journal process in the General Ledger. The system transfers historical data from the General Ledger into DIGICALC and uses the information to make budget projections.

Customized reports can be created without programming and generated in detail; summary information is contained in data files. Any financial report can be produced with the parameter-driven financial reporting system. The financial report parameter file can be used to define specific data to be transferred to the DIGICALC spreadsheet.

A version of this product is available for VAX computers.

**Price:** \$7500 - \$20,000**Contact:** Lawson Abinanti  
(206) 822-3140TIMELINE, INC.  
10607 N.E. 38th Place  
Kirkland, WA 98033**TOLAS Inquiry and Reporting System****PDP-11 Operating System:** RSTS**Keywords:** • Distribution • Spreadsheets

In addition to functioning as a PC interface, this system provides a fast, efficient, easy-to-use method of accessing information and generating reports from a wide variety of data bases. The system has been designed for easy use by both inexperienced users and seasoned data processing personnel. Reports are created through an interactive dialog that provides intelligent defaults for selected fields. Mistakes are easily identified and corrected. The RMS-based version of the system

includes a display option that allows the user to view the report format during the dialog session.

Additional capabilities are provided for the extraction, formatting, and automated transfer of any TOLAS data base information to PCs. Managers at headquarters, remote branches, or in various departments can all access the corporate TOLAS data base and extract specific information for their own spreadsheet analysis, budgeting, simulation, data management, or other types of specialized reporting.

A version of this product is available for VAX computers.

**Price:** \$6400 – \$11,000

**Contact:** Bob Erickson  
(412) 963-6770

GSI TRANSCOMM  
1380 Old Freeport Road  
Pittsburgh, PA 15238

### **Treasurer's General Ledger and Warrant Reconciliation**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Financial management • General ledger

This on-line real-time system provides the ability to enter daily transactions; print the daily statement; update funds, bank, and interim account balances; and reconcile the redeemed warrants on the auditor's outstanding-warrants list. This program's menu-driven technology creates ease of operation, provides current status of accounts, produces daily required statements automatically, and makes available through inquiry detail activity for fund, bank, or account.

The program provides file maintenance and daily activity with only one date to be entered, generates reports and updating functions on request, and performs an edit of daily transactions before updating. The program also provides monthly 7-year totals of receipts, disbursements, and transfers for each fund. The program provides monthly and yearly totals of deposits and checks for each bank and interim account.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$4000

**Contact:** James W. Sanderbeck, Vice President  
(216) 489-1885

PM COMPUTER SERVICES CO.  
630 – 30th Street, N.W.  
Canton, OH 44709

### **TRON Accounts Payable**

**PDP-11 Operating System:** Micro/RXS, RSTS, RSX, RT-11,  
ULTRIX-11

**PRO Operating System:** P/OS

**Keywords:** • Accounts payable • Data base management



TRON Accounts Payable and Cash Disbursements is used either as a stand-alone package or with TRON General Ledger. The package features debiting and crediting to any part of the general ledger and also allows easy customization when used with our user-friendly data base manager.

As a stand-alone package, TRON AP can produce edit lists and journals for entry, editing, and posting of new payables; adjustments; cancellations; and prepayments. TRON AP prints open items, has an on-line vendor account inquiry, prints cash requirements, and has flexible payment selections, including partial payments. Vendor analysis is also a standard feature of this system.

Training is available to learn the customization process.

A version of this product is available for VAX computers.

**Price:** \$800 – \$2000

**Contact:** Michael A. Sce, President  
(718) 377-6998

SOFTWARE CONSULTING ENTERPRISES, INC.  
1360 Ocean Parkway, Apt. 3H  
Brooklyn, NY 11230

### **TRON Accounts Receivable**

**PDP-11 Operating System:** Micro/RXS, RSTS, RSX, RT-11,  
ULTRIX-11

**PRO Operating System:** P/OS

**Keywords:** • Accounts receivable • Data base management  
• General ledger

TRON Accounts Receivable, which may be used with TRON General Ledger, efficiently performs debit and credit functions to any part of the TRON General Ledger. The package's user-friendly data base manager facilitates programming changes.

TRON Accounts Receivable includes open item and balance forward; maintenance lists; reports and statements; cash receipt entry, editing, and posting on-line customer inquiry; sales commissions; and printed reports.

Training is available to learn the customization process.

A version of this product is available for VAX computers.

**Price:** \$800 – \$2000

**Contact:** Michael A. Sce, President  
(718) 377-6998

SOFTWARE CONSULTING ENTERPRISES, INC.  
1360 Ocean Parkway, Apt. 3H  
Brooklyn, NY 11230

### **TRON General Ledger**

**PDP-11 Operating System:** Micro/RXS, RSTS, RSX, RT-11, ULTRIX-11

**PRO Operating System:** P/OS

**Keywords:** • Data base management • General ledger

TRON General Ledger, which may be used with TRON Accounts Payable or Accounts Receivable, includes all standard reporting features associated with a general ledger system, as well as the added feature of easy customization. The package's user-friendly data base manager makes programming easy.

Standard formats are included for chart of accounts, worksheets, balance sheets, and net income statements. Capabilities include reviewing last year's information as well as historical records of net income statements for up to five years. Random inquiries and reports are easily accessed by a menu of user-defined selections.

Training is available to learn the customization process.

A version of this product is available for VAX computers.

**Price:** \$800 - \$2000

**Contact:** Michael A. Sce, President  
(718) 377-6998

SOFTWARE CONSULTING ENTERPRISES, INC.  
1360 Ocean Parkway, Apt. 3H  
Brooklyn, NY 11230

### **Turnkey Data**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Accounts payable • Accounts receivable • Payroll  
• Sales analysis

This turnkey/data base business package for DIGITAL OEMs/distributors/end users includes all necessary programs, procedures, and start-up indirect command files to generate, run, and track a DIGITAL OEM or distributorship. The programs are written in DIBOL-11 and DECFORM and include job costing, payroll, accounts receivable, accounts payable, and general ledger.

This package enables the holder to offer clients turnkey software without leaving the office. Report programs allow the display of report information on terminal screens with 132-character display capability.

A version of this product is available for VAX computers.

**Price:** \$1200 - \$8400

**Contact:** Peter J. Marcantonio  
(518) 793-8023

EXECUDATA COMPUTER SYSTEMS  
1392 Redmond Road  
Gansevoort, NY 12831



**UDS General Ledger Accounting****PDP-11 Operating System:** RT-11, TSX-PLUS™**Keywords:** • Accounts payable • Accounts receivable  
• Construction • Payroll

Memory required: 128KB.

This completely integrated general accounting package, written in COBOL and based on the "company dollar" concept taught by the Realtors National Marketing Institute, offers accounts receivable, accounts payable, and payroll functions. The package provides total accounting for up to nine companies, each of which can have up to 81 profit centers. Detailed profit and loss statements, both consolidated and departmental, and consolidated and departmental income/expense ledgers are available. This package also offers a construction package, which is a job cost function for construction projects.

TSX-PLUS™ is a trademark of S &amp; H Computer Systems, Inc.

**Price:** \$3600 - \$4800

**Contact:** William Irwin  
(404) 724-7761 or (800) 241-2404  
UNITED DATA SYSTEMS, INC.  
501 Greene Street, Suite 220  
Augusta, GA 30901

**WIP (Work In Progress)****PDP-11 Operating System:** RSTS**Keywords:** • Accounts payable • Accounts receivable  
• Cost accounting • Project management

This system allows project breakdowns by division and phase. Actuals and budgets for dollars are maintained. Holdbacks and progress billings can be handled through the Data Key accounts payable and accounts receivable systems, as well as labor, through integration with the payroll system. Overheads (for example, labor and material burdens) can be automatically generated, based on predetermined percentages. Reporting and inquiry capabilities include a register that provides a detailed history of each project and many summaries with a variety of formats.

**Price:** \$7000

**Contact:** Marvin Gogal, Branch Manager  
(403) 464-7121  
DATA KEY LTD.  
2107 - 87 Avenue  
Edmonton, Alberta T6P 1L5 Canada

**ZIN****PDP-11 Operating System:** ULTRIX-11**Keywords:** • Data base management • Financial management  
• General ledger • Spreadsheets

ZIN is a relational data base system with built-in applications. The system consists of seven standard modules — General Ledger, Accounts Payable, Accounts Receivable, Payroll, Statistical Analysis, Spreadsheet, and Fixed Assets.

A version of this product is available for VAX computers.

**Price:** \$300 — \$3000

**Contact:** Dennis R. Thompson

(619) 283-6211

EPICOM INC.

3647 Fairmount Avenue

San Diego, CA 92105



## Agriculture



Barbara Alper/Stock, Boston

## **ADAM (Automated Dairy and Management)**

**PDP-11 Operating System:** RSX

**Keywords:** • Management • Production control  
• Property management

This fully integrated dairy herd management system is designed to meet the current and future record-keeping needs of dairy herd managers. Developed and maintained by a staff of dairy herd management experts, ADAM maintains complete records on herd health, reproduction, and production. ADAM, available for on-farm computers or interactive timesharing on remote computers, interfaces with any manufacturer's automatic data-collection devices. This system can be interfaced with automatic milk meters and feed stalls and all the other devices being developed and announced (milk conductivity, milk or body temperature, animal activity, body weight, and so on).

ADAM interfaces electronically with Dairy Record Processing centers to allow direct input of management information and distribution of DHI results. Sire production and type proofs can be automatically updated after each USDA Sire Summary. Management reports can be customized by the user; up to 10 versions of each report may be permanently defined and generated by request. Herd summary information for the last 13 months and 2 previous years allows within-herd analysis of herd health, reproduction, production, cost, and genetic trends. ADAM has special provisions to support the special processing needs of registered breeders — complete embryo transfer, classification, registration, and pedigree capabilities are provided. Table-driven prompts and comments allow the system to be converted from one language to another in a relatively short period of time.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Roger W. Palmer, Ph.D., President  
(608) 233-6484 or 231-2005

AGRICULTURAL COMPUTING AND CONSULTING  
215 Lathrop Street  
Madison, WI 53705

## **DAIRY-MAN Dairy Herd Management System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Distribution • Management  
• Report writer

DAIRY-MAN, developed by Shovav, is a comprehensive, powerful system for dairy farmers, veterinarians, feeding experts, and computer professionals and is the ideal dairy herd management tool. DAIRY-MAN provides better information and thus higher profits, data to raise milk production and reduce disease, on-line analysis of any aspect of herd or an individual's history, and user-defined reports offering flexibility, selectivity, and format.



Input consists of individual animal information, such as calving, birth, health, fertility, milk quantity, changes in weight, fattening, breeding, and group exit; group information, such as feed use and real milk production; branch information, such as real milk production, manure and fertilizer production, and products and services; and herd information, such as feed stocks, products, and services. Output contains working reports, such as doctor's visit, forecasting of estruations, lists of cows/calves for insemination, estimation of period without milk and calving, group's composition and characteristics, and animal cards; and periodical and professional reports, such as herd movement, herd composition, fertility checks, milk control totals, milk-quantity diagrams, professional data, miscellaneous estimations, feed administration, milk production and distribution, meat production and distribution, feed stock control, monthly reports, and annual reports.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bezalel Cnaani  
(972) 52-554267

EXOFT — SOFTWARE SYSTEMS EXPORT LTD.  
P.O. Box 317  
Herzliya 46103 Israel

## EQUUS-11

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**PRO Operating System:** RT-11

**Keywords:** • Billing • Information management • Medical  
• Scheduling

This complete management system for horse breeding ranches includes the following features and capabilities:

- Maintenance of horse information — sire, dam, dam's sire, date of birth, horse type, color, tag number, foal information, and so on — scheduled breeding activity, and daily activity. The daily breeding schedule is automatically prepared, based on the future-activity file and any previous activities that were rescheduled. Billing information may be entered at this time or maintained separately.
- Maintenance of breeding-activity history for each horse for as long as desired, assuming sufficient disk space. History reports by individual horse or grouped by owner can be printed on request, allowing analysis of individual horse care.
- Generation of acknowledgments to owner of any breeding activity.
- Calculation of daily charges and printing of invoices monthly, or on request, or at horse departure.
- Preparation of annual breeding reports, as well as certain custom reports for the major horse associations and horse-earnings reports, permitting profit analysis of each horse by comparing the lifetime earnings against cost. Conception-rate analysis of each stud or problem mare is also available.

- Tracking of individual horse entries into the different futurities. This subsystem will remind the owner of futurity payments and save expensive penalties. Actual check generation can be accomplished by interfacing with Accounts Payable.
- Interface to general ledger, accounts receivable, and accounts payable systems. Payroll is also available for the ranch's expanded needs.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$4500 - \$9000

**Contact:** Rob Whitlock or David Darter  
(405) 236-4351

DIGITAL SOLUTIONS

P.O. Box 25987

Oklahoma City, OK 73125

### **FEED-MAN Feed Analyzer**

**PDP-11 Operating System:** RSTS

**Keywords:** • Cost accounting • Nutrition • Statistics

This system, developed by Shovav, matches information from the ration preparation system and the DAIRY-MAN system to analyze feeding efficiency, to check ratio of production/feeding, and to improve the dairy's efficiency. The Feed Analyzer reports include actual feeding for a group, total usage of every nutrient, average contribution percentage for any ingredient to the dry material in the ration, cost analysis, group feeding analysis by ingredient (constraints), feed-efficiency coefficients, a comprehensive herd report, and milk yields — total figures for period.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bezalel Cnaani  
(972) 52-554267

EXOFT — SOFTWARE SYSTEMS EXPORT LTD.

P.O. Box 317

Herzliya 46103 Israel

### **FEED-MAN Ration Preparation**

**PDP-11 Operating System:** RSX

**Keywords:** • Calculation aids • Medical • Nutrition  
• Production control

FEED-MAN, developed by Shovav and used by farmers, feedmill operators, and veterinarians, offers a ration-preparation module that composes food mixtures based on linear programming formulas. The user can forecast changes in ration composition according to fluctuations in price or quantity.

This flexible system allows for repeated composition planning, taking into consideration the various constraints of required protein value, nutritional value, energy requirements by number of calories, and so



on. The system generates a nutritional breakdown summarizing protein, calcium, magnesium, carbohydrates, and phosphorous values, as well as calories for each feed mixture.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bezalel Cnaani  
(972) 52-554267

EXOFT — SOFTWARE SYSTEMS EXPORT LTD.  
P.O. BOX 317  
Herzliya 46103 Israel

### **Flock Modeling and Egg Production Forecasting**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Forecasting • Modeling/simulation • Scheduling

This software models the sizes, ages, and locations of flocks of pullets and laying hens. Movement of pullets into laying houses, molt dates, and sell-off dates can be entered into a model for an egg production operation, and reports showing future total egg production and charts showing flock movements can be generated from the model. Models can be run for up to four years.

**Price:** \$2495

**Contact:** David M. Perlman  
(612) 546-2364

D P COMPUTER SYSTEMS  
8708 Hopewood Avenue  
Minneapolis, MN 55427

### **Format International Feed Formulation Systems**

**PDP-11 Operating System:** Micro/RXS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Bill of materials • Manufacturing  
• Materials handling • Nutrition

This integrated mill management package, used in more than 38 countries for the animal feed manufacturer, enables the feed compounder to formulate feeds and helps minimize the costs associated with buying and mixing raw materials. Single-Mix® formulates feeds, concentrates, and premixes. It stores 20,000 formulas, 20,000 specifications, and 10,000 raw materials with 200 nutrients and 12 costs. Formulations may be run sequentially or individually. Gross-margin reports, raw-material breakdowns and explosions, straightforward stock monitoring, and batch control are included.

Single-Mix links with more than 30 programs, such as Multi-Mix,® SBREAK (Single-Mix) parametrics, TBREAK (Tonnage) parametrics, and other programs to satisfy the needs of the nutritionist, the buyer, the mill manager, and the managing director. The software's built-in communications capabilities allow linking with such other FORMAT

programs as the 10,000-row by 10,000-column Ten-K spreadsheet program and administration and process control programs.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$6000

**Contact:** Wallace Bees

(515) 276-4827 or Telex: 478375

FORMAT PHARM-TECH LTD.

10201 Dennis Drive

Des Moines, IA 50322

### **FPS (Fruit Packing System)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX

**Keywords:** • Accounts receivable • General ledger • Inventory

The Fruit Packing System is designed to provide complete inventory controls from the receipt of loose fruit to packing the fruit, accounts receivables from the receipt of order to billing and issuing of monthly statements, lot settlements, and grower paybacks. Major reports include season-to-date receipts, season-to-date packout, sales analysis, packed inventory status, grower/lot settlement reports, and grower accounts — history and status.

**Price:** \$8000 - \$10,000

**Contact:** Steve Defoe

(509) 457-8161

SPINNER DATA SERVICE, INC.

P.O. Box 693

Yakima, WA 98907

### **HomeRange**

**PDP-11 Operating System:** Independent

**Keywords:** • Calculation aids • Medical • Statistics

Memory required: 56K bytes.

This easy-to-use program, which was developed on an LSI-11, calculates the home range size (area traversed by an animal in its normal activities of food gathering, mating, and caring for young) from a series of independent observations of the animal's location. Also calculated are the utilization distribution (the probability of the animal's being located at various positions on a plane) and other useful statistics. The program contains complete documentation and references to the literature explaining the method. The program, written in a subset of "standard" Pascal, is designed to be portable and should run on a wide variety of computers. DECUS number 11-460.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**IMS-8 (Integrated Mill-Management System-8)****PDP-11 Operating System:** TSX-PLUS™**Keywords:** • Financial analysis • Inventory • Order processing  
• Process control

This series of modules for the feed grain industry provides process control, inventory control, order entry invoicing, best-cost formulation, and financial packages.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$2000 – \$50,000**Contact:** LaDell Swiden

(605) 336-2750

RAVEN INDUSTRIES, INC.

P.O. Box 1007

Sioux Falls, SD 57117

**MICRO FEED****PRO Operating System:** P/OS**Keywords:** • Calculation aids • Decision support • Nutrition

This minicomputer-based interactive feed formulation system uses extensive data-editing facilities to solve least-cost single and multimix problems. Using a straightforward system of commands, the nutritionist can enter changes to raw-material analyses and costs, alter product specifications, solve the formulation problem, and store the least-cost formulas to produce tonnage reports, recostings, and gross-margin reports.

The output produced by the least-cost formulation routing includes information on raw-material inclusion rates, nutrient levels, opportunity process of rejected materials, constraint costs, and ranges of costs and specification limits over which the solution remains unchanged. In addition, multimix output details total raw-material usage, having taken account of limited stocks.

The software is written in FORTRAN and is supplied on diskette with full supporting documentation.

In the United States, contact J. Creegan, Ketron Inc., 17th Floor, Rosslyn Centre, 1700 North Moore Street, Arlington, VA 22209 (703) 558-8700.

**Price:** \$1875 – \$3750**Contact:** Paul Bryan-Tatham

(0908) 585858

SCICON U.K. LTD.

Wavendon Tower, Wavendon

Milton Keynes MK17 8LX Great Britain

### **PBS (Produce Brokerage System)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX

**Keywords:** • Accounts receivable • Billing • Inventory  
• Order processing

PBS provides inventory control and sales reporting for a fresh-produce brokerage company. Included are packages for product receipt and repackaging, order entry and billing, sales reporting and accounts receivable, and grower paybacks. Major reports include season-to-date receipts, sales analysis, inventory status, and grower accounts — history and status.

**Price:** \$8000 — \$10,000

**Contact:** Steve Defoe

(509) 457-8161

SPINNER DATA SERVICE, INC.

P.O. Box 693

Yakima, WA 98907

### **PFS**

**PDP-11 Operating System:** Independent, TSX-PLUS™

**Keywords:** • Production control • Quality control  
• Sales analysis

This linear program and associated programs determine the best cost or least cost of feed formulations. This system, written in FORTRAN/DIBOL on TSX-PLUS, includes maintenance of nutrient, ingredient, and cost files; maintenance of product specifications, stock, and formulas; formula extension; comparative cost and parametric formulation analyses; mix sheets/mix cards; host communicating; and medication suffixes.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$8000 — \$10,000

**Contact:** LaDell Swiden

(605) 336-2750

RAVEN INDUSTRIES, INC.

Box 1007

Sioux Falls, SD 57117

### **Produce Distribution System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Billing • Distribution • Inventory  
• Order processing

This system facilitates the distribution of perishable goods from order entry to billing. An inventory system and a large variety of sales and management reports are also included.

The system is designed for a fast-paced operation. Order entry is geared for next-day delivery and can handle hundreds of orders each day in a multiterminal environment. Customers can be assigned to ordered delivery routes by truck, and each customer can be tied to a



data entry screen customized to the products that are ordered most frequently. Various pricing methods are available, including prices tied to market quotations, and they are computed on line so that the system is responsive to changing markets. Bills of lading and truck-loading instructions are printed by delivery day. Following delivery, every order is matched against quantities delivered. Statements include itemized and extended delivery invoices, an invoice summary, and aged balances due. The billing system can handle chain stores, special pricing, and promotions, as well as merchandise credits and miscellaneous adjustments.

**Price:** \$9950

**Contact:** David M. Perlman  
(612) 546-2364

D P COMPUTER SYSTEMS  
8708 Hopewood Avenue  
Minneapolis, MN 55427

### **TACT (Total Agribusiness Computer System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Information management  
• Inventory • Nutrition

TACT is an integrated system for nutritionists; feed, feed-supplement, and specialty-product manufacturers; and related industries. The system consists of least-cost feed formulation, multiproduct formulation, beef and dairy systems, order entry, inventory, accounts receivable, general ledger, payroll, and accounts payable.

**Price:** \$4000 - \$35,000

**Contact:** Carol L. Adams, Vice President  
(404) 458-2371

COMPUTER GENERATION, INC.  
3855 Presidential Parkway  
Atlanta, GA 30340

### **WATER-MAN HNA (Hydraulic Network Analyzer)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Environmental • Modeling/simulation  
• Scheduling

HNA, developed by Shovav, is a simulation program that lets the user test various modes of operation without wasting time, energy, or water. HNA lets the user display the relevant data: flows, pressures, energy consumption, and so on.

The irrigation scheduling system accepts the crops plan for the coming year and uses a data base that includes the water requirements for each crop in each season of the year, taking into consideration the lot size, the constraints of irrigation equipment, water resources, and rate of supply (flow). The system plans and schedules irrigation according to this input. Input is entered and validated on line.

The interactive irrigation scheduling system can be periodically updated after the results of wetness measurements in the fields and the effective level of evaporation have been entered. The system can be combined with the HNA, providing efficient use of network resources for cost-effective results.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bezalel Cnaani

(972) 52-554267

**EXOFT — SOFTWARE SYSTEMS EXPORT LTD.**

P.O. Box 317

Herzliya 46103 Israel



## Arts and Leisure



Robert Pyle

### **3-Dimension Tic-Tac-Toe**

**PDP-11 Operating System:** RSX

**Keywords:** • Games

Memory required: 51,200 bytes (FORTRAN IV); 52,100 bytes (FORTRAN IV PLUS).

This program plays 3-dimensional ( $4 \times 4 \times 4$ ) tic-tac-toe on a VT52 or VT52-compatible CRT. The game does direct cursor addressing for both computer and opponent moves. Instructions are displayed on the CRT. DECUS number 11-400.

Note: Object and .TSK files are supplied for both FORTRAN IV and FORTRAN IV PLUS.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **3D-Tic-Tac**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Games • Presentation aids

This demonstration program compares a computer's pattern recognition with that of a human. The program is a tic-tac-toe game played on a  $4 \times 4 \times 4$  board. The game rules are contained in the program. DECUS number 11-72.

Restrictions: TTY interrupt disabled.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Adventure**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11

**PRO Operating System:** RT-11

**Keywords:** • Games

Adventure is a magical, unpredictable treasure hunt with mysteries and challenges that grow more complex as the game unravels. Adventure is more of a puzzle than a game. Once solved, it's mastered! The mastering, however, often takes months of drawing maps and planning strategy. DECUS number 11-340 (PDP) or PRO-116 (PRO).

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Airplane Landing Simulation Game**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Memory required: 16K words.

This game provides a pseudographic display of an aircraft instrument panel, with real-time updates at 1-second intervals. The program simulates an instrument landing approach from an altitude of 2500 feet to the runway, with instructions from the ground radar controller. Aircraft climbs, dives, and stalls are properly simulated. An off-airport



landing, with a snide remark as reward, as well as a go-around for a missed approach, are both possible. DECUS number 11-388.

Restrictions: For RT-11, use FB monitor, SET TT NOCRLF before starting.

A PLANE.SAV file is supplied for use on RSTS/E or RT-11. If you use EIS, FIS, or FPP hardware, you must recompile and relink. Uncommented sources are supplied. To recompile, you must have a FORTRAN subroutine library (SYSF4.LIB) on the system.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Airplane Landing Simulation Game for the Professional 300**

**PRO Operating System:** RT-11

**Keywords:** • Games

This game provides a pseudographic display of an aircraft instrument panel with real-time updates at 1-second intervals. The program simulates an instrument-landing approach from an altitude of 25,000 feet to the runway, with instructions from ground radar control. Aircraft climbs, dives, and stalls are properly simulated. An off-airport landing and a go-around for a missed approach are possible.

Source code is supplied for both VT100-compatible and VT52-compatible terminals, and command files are supplied to enable versions to be produced for background, foreground, and system job. DECUS number PRO-115.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Arcade Game Package**

**PDP-11 Operating System:** RSX

**Keywords:** • Games

Memory required: 16KW.

This package contains four games based on the arcade games PACMAN, MISSILE COMMAND, CENTIPEDE, and BREAKOUT. These games are written for PDP-11s running RSX but will run on VAXs in compatibility mode. The games require a VT100 video terminal operating at 9600 baud. Players control the motion of activity on the screen by using the VT100 keypad keys to simulate a joystick. The games increase in difficulty as one's score increases.

Each game has a separate UIC, complete with source, object, and task files; a README.1ST file to explain procedures for building the game; and a .DOC file containing playing instructions for that game. DECUS number 11-SP-35.

Restrictions: The package runs on VAX only in RSX compatibility mode. Playing instructions are included in .DOC files.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## Arts

### **PDP-11 Operating System: RSTS**

**Keywords:** • Accounts payable • Fund raising • General ledger  
• List processing

This integrated management system for nonprofit organizations is particularly suited for the arts. The modules include fund raising, membership, subscription and single-ticket sales, collection management (art object inventory), marketing questionnaire analysis, general ledger and financial reporting, accounts payable, a purchase order system with commitments reporting, payroll, fixed-asset accounting, and budgeting.

The software, written in BASIC, requires 2MB to 4MB a module for disk storage of the programs. All programs require less than 32K main memory to run.

Flexible report writers allow the user to design forms, letters, and reports and to implement them easily. All programs are table driven. FSORT/SELECT is used for extremely fast sort and selection response times.

A version of this product is available for VAX computers.

**Price:** \$5000 - \$20,000

**Contact:** Robert W. Hunt  
(206) 328-3100

ROBERT W. HUNT & ASSOCIATES  
1502 Lake Washington Boulevard South  
Seattle, WA 98144

### **BASIC Demonstration Package**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Games • Presentation aids

This package contains a group of demonstration tapes, using the PDP-11 BASIC assembler. A knowledge of the games involved is assumed. The demos are Football, Rocket, Weekday, Craps, Civil War, and Snoopy. DECUS number 11-10.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Battle Ships**

**PDP-11 Operating System:** RSX

**Keywords:** • Games

Memory required: 27K words.

In this simulation of the popular game Battle Ships, player and computer position their ships in their respective game squares. In the game, the computer and the player alternate shots until one has sunk all the adversary's fleet, thus winning the game.



Each time this program is run, the computer chooses the positions for its own ships randomly and beyond the control of the player. Each square has a horizontal address from A to P and a vertical address from 1 to 6.

You can play with none or one aircraft carrier, up to two cruisers, up to three destroyers, and up to five submarines. The ships can be positioned horizontally or vertically.

The object file was produced by the Swedish Pascal Compiler V5.0/V4.0. To create the "TSK" file, the FORTRAN subroutine "RANDU" and function "SECNDS" must be included from the FORTRAN IV library.

Execution of the program under RSX-11M is initiated by the RUN BATSHIP command. Once running, the program is self-explanatory and includes an introduction to the game.

The Pascal source file contains a commentary about the structure of the program. DECUS number 11-440.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Blackjack for the MINC**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Memory required: 6300 maximum words.

Blackjack plays Las Vegas blackjack with every major facet except splitting. The computer is the House (dealer) and plays against one to four players, using as many as three decks. The display is organized, the program runs smoothly, and it is fun testing your ability and luck at the casino. Practice against the MINC, and you will soon be ready for Vegas, Atlantic City, and Monte Carlo. DECUS number 11-563.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **BOCS (Box Office Computer System)**

**PDP-11 Operating System:** RSX

**Keywords:** • Point of sale • Real time

This package is a real-time seat reservation and ticketing system for theaters, leisure centers, and sports arenas. BOCS is appropriate for single or multivenue entertainment complexes with 500 to 100,000 seats.

BOCS offers unique displays of seating plans, and users have complete freedom and control over ticket content and format. The system includes all the functionality to handle single, group, telephone, and subscription sales, with full marketing and donor recording and analysis. Stand-by facilities and a fully integrated private viewdata option are available to provide a remote sales network.

BOCS is normally supplied as a total installation package, including hardware, software, training, documentation, support, and maintenance and can be purchased outright, leased, or rented.

A version of this product is available for VAX computers.

**Price:** \$40,000 – \$700,000

**Contact:** Paul Rosedale, President  
(212) 239-2627

SPACE-TIME SYSTEMS, INC.

225 West 34th Street, Suite 1504  
New York, NY 10001

### **CALEND: A Calendar Program**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Presentation aids

Memory required: 6144KB.

A calendar is produced for any year between 1901 and 2099. The user is prompted for the year. The calendar is then written to a file named CALEND.PRT, after which the program exits. The print file can be written to a line printer or a terminal. DECUS number 11-766.

A version of this product is available for VAX computers.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **Calendar Printing**

**PDP-11 Operating System:** RSX

**Keywords:** • Presentation aids

This program prompts the user for a year between 1583 and 32,766 and prints a calendar for that year. The program writes the calendar to a file year.CAL and closes that file. The prompt is repeated for additional years until the user replies with a 0; the program then exits. The year files can then be listed. DECUS number 11-477.

Note: This version corrects a logic error, which makes the calendar from 1984 on correct, and reflects changes in OMSI Pascal from Versions 1.2 to 2.0. Program CAL.PAS is written in OMSI Pascal Version 1.2. For other versions, only changes in I/O statements should be needed.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **Chess Ingenuity®**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Games

Memory required: 32KW.

This system for playing and teaching chess has many easy-to-use features that make it ideal for amateurs and useful to stronger players as



well. Chess Ingenuity, written in BASIC-PLUS-2, includes arrow-key and algebraic-move modes, save and restore games, "chess movies" (game replays), on-screen commands and help, supplied Grand Master games, move-evaluation scores, two board styles, default difficulty levels (1 to 9), game score log files, a list or display of all legal moves, an edit mode (position setup), a game time clock, a visible chess-tree search, and a look-ahead parameter adjustment.

A version of this product is available for VAX computers.

**Price:** \$39.95 – \$49.95

**Contact:** Kenneth Presley  
(502) 448-2719

COMPUTER INGENUITY CONSULTING ASSOCIATES,  
INC.

4513 Flintlock Drive  
Louisville, KY 40216

### **Choose**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Memory required: 32K or more.

This questionnaire enables the player to appraise his or her knowledge of Christianity and the Word of God. The player answers yes or no to the questions; the computer then agrees or disagrees. Depending on the player's answer, the computer refers the player to the appropriate references for each question. After answering the last question, the player is asked to make a choice about his or her eternal welfare. DECUS number 11-373.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **CHSMOV — Chess-Move Recorder on a VT55 or a VT105, Under MACRO-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Memory required: 32K.

CHSMOV records the moves of two players on a VT55 or a VT105 graphics terminal. A checkerboard is drawn on the screen; pieces are labeled by a 2-character code identifying the color and type of piece. The players use algebraic notation (for example, E2-E4) to enter the move to be made. The program checks to see if the proper characters have been typed and whether the pieces at the location specified are there or not. Illegal entries cause the terminal buzzer to sound and the move to be retyped. Players can castle on either side by typing K[RETURN] for king-side castling and Q[RETURN] for queen-side castling. The elapsed time taken by each player is calculated and displayed at the bottom right of the screen after every move. DECUS number 11-532.

Note: This program does not check for legality of moves and does not play chess against the operator. Capturing en passant and pawn promotion are not allowed.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **CHSSLV (Chess-Problem Solver)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

This program solves chess problems. White checkmates black in two or three moves. Castling and en passant are forbidden moves. DECUS number 11-162.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Country Club Accounts Receivable**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable

Designed expressly for country clubs, this package generates management reporting information and provides audit trails, aged trial balances, and cash-flow analysis. Special club-oriented features include a dual-address file, automatic membership billing functions, and immediate individual member status.

**Price:** \$3000 - \$4000

**Contact:** Shelia A. McPartland, Customer Account Representative  
(305) 652-1710

FLORIDA COMPUTER, INC.

99 NW 183rd Street, Suite 126

North Miami, FL 33169

### **Country Club Golf Handicapping System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Report writer • Statistics

The USGA-based Country Club Golf Handicapping System produces detailed reporting of handicaps by male and female categories, allows members to enter their own handicaps, and generates score cards.

**Price:** \$1000 - \$2000

**Contact:** Shelia A. McPartland, Customer Account Representative  
(305) 652-1710

FLORIDA COMPUTER, INC.

99 NW 183rd Street, Suite 126

North Miami, FL 33169

### **Country Club Payroll System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Payroll



This standard payroll package handles the intricate gratuity and meal allowance aspects of many country clubs. The system provides detailed reports of employee payroll status, both current and year to date. Along with the usual check and base registers, tax and labor distribution information is also available.

**Price:** \$1500 - \$2500

**Contact:** Shelia A. McPartland, Customer Account Representative  
(305) 652-1710

FLORIDA COMPUTER, INC.  
99 NW 183rd Street, Suite 126  
North Miami, FL 33169

## Cycles

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Memory required: 16K.

This adaptation from DECUS number RSTS-11-76 has been rewritten for RT-11 and MU BASIC. Cycles formats a biorhythm chart for printing on either a user terminal or a line printer. Output can be directed to any legal RT-11 device. The output requires a wide-carriage printer, such as the LA36, or a terminal.

The biorhythms are calculated by methods that assume birth and current dates to be between January 1, 1901, and December 31, 1999.

For brevity, the program prints a 31-day chart, regardless of the length of the month. DECUS number 11-235.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## Dungeon

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Games

Memory required: 28K user space (RSTS/RT) or 32KW user space (RSX).

Dungeon is a game of adventure, danger, and low cunning. In it you will explore some of the most amazing territory ever seen by mortals. Hardened adventurers have run screaming from the terrors contained within.

In Dungeon, the intrepid explorer delves into the forgotten secrets of a lost labyrinth deep in the bowels of the earth, searching for vast treasures long hidden from prying eyes, treasures guarded by fearsome monsters and diabolical traps. DECUS number 11-370.

**Restrictions:** This version of Dungeon cannot be compiled or used as is. This version can be used on diskette systems only. (See DECUS number 11-370B.) File DTEXT.DAT is a binary, fixed-length data file and must be transferred using special precautions; see documentation for each operating system in file DUNGEON.DOC.

Note: All sources are available with this version.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Dungeon for RT-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Memory required: 28K partition.

Dungeon is a game of adventure, danger, and low cunning. You will explore some of the most amazing territory ever seen by mortals. Hardened adventurers have run screaming from the terrors contained within.

In Dungeon, the intrepid explorer delves into the forgotten secrets of a lost labyrinth deep in the bowels of the earth, searching for vast treasures long hidden from prying eyes, treasures guarded by fearsome monsters and diabolical traps. DECUS number 11-370B.

Note: The sources are not available for this version of Dungeon. Release notes are available in hard copy only.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **European MINC Package #8 — Games**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

The following is a brief description of the programs:

- CHESS — Mk1.1 representing graphically the chess board on a VT105
- RACE — A game of driving cars around our elliptical track (HP-9872A or HP-7225A)

DECUS number 11-579.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FLIP: A Computer Program for Fuzzy Reasoning**

**PDP-11 Operating System:** RT-11

**Keywords:** • Calculation aids • Mathematics • Statistics

Memory required: 42K.

This interactive program for use at a screen terminal implements the procedure proposed in "A Formal System for Fuzzy Reasoning" (*Fuzzy Sets and Systems*). The problem is to decide what conclusions can be drawn in the presence of possibly conflicting evidence. Conclusions are drawn with associated partial degrees of belief, by several sources of differing reliability. Each piece of evidence is entered as a sentence (using the terms NOT, AND, OR, and IMPLIES as necessary), with an



associated "degree of belief" and "weight," followed by a tentative conclusion. The program provides the degree of belief and weight that rationally may be attached to the conclusion.

The program is written in FORTRAN (868 lines, compatible with FORTRAN IV and FORTRAN V). FLIP has been used on the PDP-11/03, RT-11 version. The program is described in "A Computer Program for Fuzzy Reasoning" (submitted to *Fuzzy Sets and Systems*). DECUS number 11-409.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Games, Puzzles, and Recreation-1**

**PDP-11 Operating System:** RSTS

**Keywords:** • Games

This package contains 55 recreational programs, many of which have substantial educational value, especially for learning about principles of mathematics, probability, and logic. Programs range from a comprehensive Space War simulation to a nursery stories quiz. DECUS number 11-18.

**Note:** Documentation available from DIGITAL (Order number EB-04873-76).

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Games, Puzzles, and Recreation-2**

**PDP-11 Operating System:** RSTS

**Keywords:** • Games

This package contains 49 recreational programs, some of which are unique in concept, educational, and good fun. Some of the programs take advantage of the advanced features of BASIC-PLUS and are quite elegant in structure as well as being challenging and entertaining to run. Programs range from the games of Yahtzee and Monopoly to a smog simulation and a pizza delivery game. DECUS number 11-24.

**Note:** Documentation available from DIGITAL (Order number EB-04873-76).

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Genral: The Great War Game**

**PDP-11 Operating System:** RSX

**Keywords:** • Games

Memory required: 32KW.

Time: The Nineteenth Century

Place: The Frontier Between Anchovy and Baklava

Anchovy has assembled a large army to invade Baklava, a neighboring state. The aim of the invasion is to capture a majority of the Baklavan

towns or to destroy the opposing army. Baklava hopes to counterattack and capture Anchovian towns or to drive out and destroy the invaders.

Genral is a game of resource management. Cavalry, infantry, and artillery units contend for control of roads, rivers, hills, towns, bridges, and forests. Strategic decisions must be made in real time, aided by statistical reports and animated video displays. An extensive instruction manual is provided. DECUS number 11-500.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Golf League Records**

**PDP-11 Operating System:** RT-11

**Keywords:** • Scheduling • Statistics

Memory required: BASIC interpreter + 11,712 words.

This program keeps records of golfers' scores and golf team competition each week for approximately 20 weeks. Each player receives a weekly report showing the latest gross score shot, net score, new handicap, tee-off time, opponents (with their handicaps), next week's tee-off time, opponents for next week, remaining fees due, team standings, and any messages. A separate tee-off schedule for all teams, a team competition summary sheet, and an updated gross and net score sheet are printed out for the operator's reference. Players are paired to form a 2-person team. Two points are awarded for a win, one point for a tie, and zero points for a loss. DECUS number 11-534.

Note: The initialization program GLFINT.BAS, needed to set up data files, is provided on the media.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Hockey Game**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Games

Memory required: 8K.

This player-versus-computer hockey game includes faceoffs, deflected pucks, kick saves, pucks tied up against boards, and so on. Games are close and exciting. DECUS number 11-107.

Note: Requires modification for use with RT-11 BASIC.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Hornet: A Star-Trek Game**

**PDP-11 Operating System:** RSX

**Keywords:** • Games

Memory required: approximately 24K bytes.



Like many of the Star-Trek versions in use, Hornet is written in Pascal and should serve as a moderately good example of structured programming. Many areas can be improved, and the program can be modified or rewritten at will. Run the program, and it will ask you if you want help. DECUS number 11-443.

Restrictions: VT52-compatible terminal should be run at 9600 baud.

Note: The compiled program will run on RSX-11M; source is in VAX native Pascal and Swedish Pascal. This program is also distributed as DECUS number VAX-11.

Price: \$5 - \$225

Contact: DECUS (see Introduction)

### **Master Mind for MINC BASIC or RT-11 BASIC**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

This BASIC program allows the user to play Master Mind against the computer. The program contains a low-level code-searching algorithm to break the user's code. Information is displayed using the graphics cursor-positioning commands of the VT55 terminal. DECUS number 11-535.

Restrictions: The Extra-Space command must be used for MINC BASIC to use all available memory for the program.

Price: \$5 - \$225

Contact: DECUS (see Introduction)

### **MM: A Mastermind Game**

**PDP-11 Operating System:** RSX

**Keywords:** • Games

Memory required: 24KW.

MM is designed purely for pleasure and enjoyment. The file MM.DOC contains some useful information on playing MM. Good luck! DECUS number 11-681.

Price: \$5 - \$225

Contact: DECUS (see Introduction)

### **OSCAR: Conversational Computer**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Memory required: 11K.

OSCAR, a program that converses reasonably intelligently with the user by way of teletype, answers questions or makes a relevant comment in approximately 95% of cases. OSCAR will not tackle arithmetic but usually types an appropriate comment about the problem. The overall conversation level is quite coherent but is sometimes slightly illogical. That result is achieved by examining the input material and dividing it into categories on the basis of the first few words. OSCAR is

thus a "brute force" example of programming. OSCAR is good party entertainment, but people's reactions also make an interesting psychological study. DECUS number 11-258.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Othello**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Othello, sometimes known as REVERSI, is a board game similar to GO or GO-MOKU. The rules are simple and easy to learn, but to become a master takes a little longer. The computer uses a 2- or 3-ply search in opposing you and is difficult to beat. You can play black or white and give or take a handicap at the start. DECUS number 11-542.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Pic-Pak: Computer Picture Collection**

**PDP-11 Operating System:** Independent

**Keywords:** • Games

This collection of ASCII picture files obtained from DIGITAL, M.I.T., and other sources can be printed on any line printer for reproduction. Any machine that can handle ASCII code can be used. The files should be both machine- and operating system-independent within that restriction.

To obtain the proper aspect ratio, the line printer should operate at 10 characters/horizontal inch and at 8 lines/vertical inch. If an LA120, LA34, or LA38 terminal is used to print the pictures, any of those printers can also be set at 16.5 characters/horizontal inch and at 12 lines/vertical inch for a smaller picture. DECUS number 11-422.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Seven BASIC Games**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11

**Keywords:** • Games

Memory required: 32KW.

Quest is a maze-mapping game patterned after Adventure. Quest's small size and straightforward structure make it easy to understand and modify.

Othello is a board game for two players. The object of the game is to occupy terrain on the board and to capture your opponent's counters. You can play against the computer, or the computer can play against itself. If you have a VT52/VT100, the program maintains a copy of the



board and the score on the screen. Otherwise, the program prints a copy of the board and the score between moves.

Trek, a variant of SPCWAR (or STRTRK), uses the cursor features of the VT52 and VT100 to produce better displays.

Life, for the VT52 or VT100 or equivalent terminal, is a version of John Conway's "Game of Life."

Wumpus, the original maze-mapping, monster-fighting game, is the predecessor of Quest, Adventure, and similar games. This version offers various hazards and totally randomized maze setups, so no two games are the same.

Adventureland and Pirates Adventure use a common interpreter, operating on game-specific data bases. Adventureland is a treasure hunt in meadow, swamp, and cave. Pirates Adventure features complex puzzles in distant climes. DECUS number 11-421.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SL-11 Amusement Devices Accounting System**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS

**Keywords:** • Financial management • Information management  
• Inventory • Taxes

SL-11 permits accurate accounting of revenues from pin-ball machines, slot machines, video machines, and other such devices. Two versions are available: one for in-house devices and table games; the other for route operators. The system permits identification of machines, machine types, coin denominations, assigned maintenance personnel, locations of devices, and technical information about the machines.

The system tracks all revenues, calculates performance as appropriate, and retains histories of revenues for the last 18 months. The histories are available for both the machine locations and the devices. Revenues are reported within taxing entities as may be required by law.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** William L. Dempsey  
(702) 384-7641

SIMCO, INC.

801 S. Rancho Drive, Suite E2B  
Las Vegas, NV 89106

### **Space Invasion**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

Memory required: 14KW.

This real-time interactive game provides both sound effects and witty comments on your abilities as the defender. This version comes with a score card file against which you match your skills. Fine tuning of speed parameters is possible. Space Invasion will consume hours! This game has been put up on RSX and RSTS as well, but details are not available in this file. DECUS number 11-510.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Space War for Cursor-Addressing CRTs**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

**Memory required:** 4K.

Space War is a 2-person real-time space craft war game for VT52/VT100 (cursor-addressing) CRTs. Each player controls a ship with the keys on the left and right sides of a standard keyboard. A set of games is played, and scores are printed at the end. Variables include number of torpedoes to fire, speed of the game, and CRT type. With minor modifications, this program will work on any cursor-addressing terminal. DECUS number 11-464.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Star-Trek (SPACWR)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Games

**Memory required:** 12K.

This program is adapted from the TV program "Star-Trek." DECUS number 11-174.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **STAR.TREK (SPACWR)**

**PDP-11 Operating System:** RSX

**Keywords:** • Games

**Memory required:** 8K w/FCRES.

This program for RSX-11M is based on the television series "Star Trek." DECUS number 11-293.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TREK: A Space Game for RSTS/E**

**PDP-11 Operating System:** RSTS

**Keywords:** • Games

**Memory required:** 16KW.



**TREK**, a development from SPACWR, uses the direct cursor addressing features of the VT52 and VT100 terminals and the Advanced Video Option of the VT100 terminal. **TREK** is a game of cunning and skill. You must destroy all the enemy's war fleet before they destroy you. The screen displays updates in real time. DECUS number 11-633.

**Note:** The game will run on any terminal but works best on a VT100 with the Advanced Video Option.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **VTAG**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Games

An exciting and challenging game for use with the VT100 video terminal with Advanced Video Option, **VTAG** does not require complex strategies and planning. **VTAG** is a game of escape and attack, changes dynamically right before your eyes, and is guaranteed to amaze and entertain.

The object of **VTAG** is to acquire as high a score as possible. As each phase of the game starts, the VT100 screen is refreshed, revealing the floor plan layout of an old mansion. In the center of the mansion is a dungeon concealing four monsters that chase the player. The player's movement is governed by the four cursor keys on the VT100 keyboard. The player who is caught is eaten by the capturing monster. The player may be caught only three times before the game is over.

Points are acquired by "picking up" stones that are strewn on the floor of the mansion corridors. If the player picks up one of four magical stones in the mansion, the monsters turn into wimps that race to the safety of the dungeon. Extra bonus points are accumulated by capturing a wimp before any other wimp reaches the dungeon. Another bonus is collected by picking up all the stones.

**Price:** \$50

**Contact:** Peter McWha, General Manager  
(613) 225-8750

LOGICAID LTD.

154 Collonnade South

Nepean, Ontario K2E 7J5 Canada

## **VTPONG: RSX-11M Task to Play Pong, Using VT52 or VT55 Terminal**

**PDP-11 Operating System:** RSX

**Keywords:** • Games

Memory required: 11,100 bytes.

To play **VTPONG**, you put the index and middle fingers of one hand sideways on the keyboard to move your paddle up and down; your opponent does the same. Moving both fingers one key closer to keyboard

center jumps the paddle four steps instead of one. One beep indicates bounce; two, serve; and three, miss. Block digit scoring, right or left "wall," and selectable paddle size and ball speed are also featured. DECUS number 11-327.

**Restrictions:** VTPONG requires RSX-11M system with "Unsolicited input CHAR.AST" and "Read with no echo" support.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



# Computer Operations

[illegible]

Robert Pyle

## Access Control

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Security

The system, designed as a high-volume, high-capacity, fast-response access control system, supports multiple local or remote control consoles with optional printers and also provides for 1000 individual doors and up to 56,000 badges. The system has three levels of validation and two sets of access parameters for each badge. Input from numeric touch pads is accepted in conjunction with badge reader input. The system processes lost badges, allows for self-expiring badges, and includes guard-door open, automatic lock and unlock, door ajar, day-of-week override, bulk card input, and management reports.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$80,000

**Contact:** Laurel McDaniel

(312) 332-3242

NEAL NELSON & ASSOCIATES

185 N. Wabash, Suite 1908

Chicago, IL 60601

## ACCLOG: Task Accounting Package for RSX-11M Version 3.0

**PDP-11 Operating System:** RSX

**Keywords:** • Software utilities • Statistics

Memory required: 4.7K words maximum; 1.3K minimum; 1.5K typical.

This set of privileged tasks and indirect command files is used to provide statistics on the total elapsed time (from task request to task exit), total CPU time (actual CPU time used, including EXEC overhead for the task), and total number of QIOs issued. Optionally available is the capability to compile systemwide information on system usage — that is, percentage of time spent in kernel mode, null task, and user tasks.

A system generation is not needed to provide support for this package. Output normally is printed on the terminal. Optionally, however, the output can be written to any FCS-supported device.

The accounting package will run on any normal (and most modified) RSX-11M Version 3.0 systems, mapped or unmapped. DECUS number 11-329.

**Restrictions:** This program runs only under RSX-11M Version 3.0.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)



**AIM Benchmark — Suite I****PDP-11 Operating System:** ULTRIX-11**Keywords:** • Decision support • Diagnostics  
• Operating systems • Purchasing

Memory required: 200K bytes.

Suite I provides nine distinct tests consisting of shell scripts with C programs for portability to a wide range of hardware configurations. AIM Benchmark Suite I measures the various aspects of UNIX\* system multiuser performance and end-user throughput, including evaluation of command completeness and C compiler efficiency, evaluation of performance under simulated multiprocess editing and sorting tests, CPU looping speed, and throughput measurements of system components vital to the performance level of the multiuser environment. With more than 150 major corporations licensing AIM Benchmarks, Suite I has become the industry standard for comparing UNIX\* systems performance, evaluating UNIX\* systems before purchase, providing a progress monitor/management aid during UNIX\* system development/integration phase, and examining system tuning effects.

AIM Benchmark Suite I is provided with user documentation and sample benchmark results from VAX-11/750, VAX-11/780, and PDP-11/70 for comparison. Suite I runs in approximately 45 minutes on an unloaded VAX-11/750 and produces about 15 pages of report output. Summaries from previous runs can be replotted for comparison. Output is suitable for line printer or screen. Additional tests can easily be created, using similar report formats.

Suite I also requires shell, awk, sed, and join system calls.

A version of this product is available for VAX computers.

**Price:** \$2450**Contact:** Ellen Williams  
(408) 727-3711

AIM TECHNOLOGY, INC.

4655 Old Ironsides Drive, Suite 390  
Santa Clara, CA 95054**ARSAP: Resource Management and Chargeback System****PDP-11 Operating System:** RSTS, RSX**Keywords:** • Billing • Cost accounting • Scheduling

ARSAP produces resource management and billing reports that allow users to monitor system usage and to charge for all computer resources used. Resource management reports necessary for planning, organizing, and controlling the computer in a multiuser, multitask operating environment are provided to optimize work scheduling and system usage control. Billing reports that automatically distribute computer charges on a user, department, project, or client basis guarantee the recovery of computer costs for the purpose of internal accounting or for billing outside projects and clients.

ARSAP provides easy-to-read, managerial-style reports on terminal, disk storage, CPU, I/O, and memory utilization by user, project, or departments (up to five levels). Those reports improve system and staff productivity, help plan for future system requirements, and justify any necessary system upgrades by accurately tracking resource usage.

Billing reports include summary and detailed usage and rate information. Detailed numbered invoices provide complete itemized statements for each account by showing the resources used and the charges for the billing period. Rates can be set for individual accounts and first, second, third, and holiday/weekend shifts. Shift accounting allows different rates to be charged for premium time and slow periods, thus achieving optimum system usage.

The user can tailor reports by selecting from numerous report formats and by specifying report variations (for example, sort order). That flexibility provides the control needed for meeting current demands and predicting future requirements. Detailed documentation, DATATRIEVE procedures, and source code sample programs allow for easy custom modifications. No SYSGEN is needed for installation, and ARSAP takes only minutes to install.

A version of this product is available for VAX computers.

**Price:** \$2495 - \$4995

**Contact:** Sales Department  
(301) 864-3700

GEJAC, INC.

P.O. Box 188

Riverdale, MD 20737

### **ASEA's DS-8/QDBC-11 Device Driver**

**PDP-11 Operating System:** RSX

**Keywords:** • A/D, D/A • Device drivers/handlers  
• Microprocessor development

The ASEA's DS-8 digital microprocessor-based input/output system is designed for control, monitoring, and data acquisition applications. The DS-8/QDBC-11 version of this system can work under control of any member of the PDP-11 computer family.

The QDDRV Driver connects/disconnects the program from monitoring unit interrupts, initiates periodic refreshing of the monitoring unit (watchdog timer), initiates analog-to-digital conversion, and sets or resets digital output points. Other noninterrupting and nonhistory I/O functions can be performed directly by a user-written privileged program.

This driver handles several I/O functions in a concurrent manner (completely transparent to the user watchdog timer), service of the monitoring unit interrupts, and A/D conversion. The driver works under control of the RSX-11M V3 and RSX-11S V2 operating systems. The program meets all requirements for nonstandard RSX-11 drivers.



Unlike other RSX-11 I/O device drivers, the QDDRV is neither a multicontroller nor a multiunit driver. DECUS number 11-519.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **ASSIGN: IAS Logical Name Assignment**

**PDP-11 Operating System:** IAS

**Keywords:** • Software utilities

This program enables the user to assign logical names to physical devices. By using a number of modes from the system mode pool, the two programs REPLACE and ASSIGN provide such a feature. Unlike PDS logical names, those logical names can be used within any program without modification and with any CLI. The default device SY: can also be redirected to any physical device. If required, a list of forbidden names can be set up and checked at each new name assignment.

REPLACE is used to set up and remove the logical name feature. ASSIGN allows names to be defined, listed, and deleted. DECUS number 11-604.

Note: RUNOFF format implementation and user's guide are included.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **ATS (Active Task List Scan)**

**PDP-11 Operating System:** IAS

**Keywords:** • Software utilities

Memory required: 4KW.

ATS displays the Active Task List (ATL) on a VT100 terminal. The task list is arranged in columns of up to 19 tasks and up to 4 columns. ATS displays in the top two lines of the screen the system time, number of free nodes, largest hole, amount of free memory, and number of errors logged. Low node count warning messages are displayed on the bottom of the screen. The display update interval can be dynamically modified. A specific task or terminal name can be monitored, as well as the initial update interval set by optional switches on the MCR command line. DECUS number 11-689.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Benchmark Monitor for RSX**

**PDP-11 Operating System:** Micro/RSX, RSX

**Keywords:** • Development tools • Software utilities • Statistics

This software takes measurements in a running PDP-11 computer system to identify the use of its components. These measurements can be used to determine the system load during a benchmark, to identify what can be done to get higher performance from a particular computer system, or to document available capacity in a system before increasing its workload.

The monitor identifies which programs have the greatest impact on your PDP-11 and therefore the greatest potential for improvement. The monitor also tells you whether you can expect faster disk access by moving or reordering files. Performance statistics are recorded for the overall system and individual programs. The system can monitor the execution of a task to profile CPU usage of code segments and can trap certain types of memory overwrites.

The software can be configured to run in memory-based systems, requires only loadable device driver support, and can be installed in minutes, as no sysgen is necessary. No additional hardware is required.

**Price:** \$2000

**Contact:** Dan Mackie  
(403) 273-2657

DANIEL COMPUTING SYSTEMS INC.  
351 Maitland Hill NE  
Calgary, Alberta T2A 5V4 Canada

### CACHE-11M/PLUS

**PDP-11 Operating System:** Micro/RXS, RSX

**Keywords:** • Disk utilities • Software utilities

CACHE-11M/PLUS maintains memory caches of data stored on disks, which allows accesses of frequently used data to come from memory rather than from disk. The result is a significant increase in system I/O performance. CACHE requires no special hardware, functions with any disk drive, and is transparent to system and user programs.

Caching can be selectively enabled for any or all disk devices in an RSX system. One command line enables or disables caching for any given disk. Caching can be enabled or disabled at any time, while maintaining the consistency of I/O and cache operations.

For any given disk, caching can be limited to a specific range of either task priorities or disk blocks. CACHE maintains complete statistical information on each disk that is cached, as well as overall system I/O activity. All statistical information can be displayed with one command line.

All write operations to a cached disk are executed as they occur, thus ensuring data integrity. In the event of a system failure, such as a power outage, the most recently written data is always stored safely on disk. To ensure data security, when a cache is disabled, all data in memory is erased before the memory is deallocated, preventing access to sensitive data.

Installation of CACHE-11M/PLUS is automated and can be done by a novice RSX user. Once installed, CACHE-11M/PLUS is controlled by a suitably privileged user executing a single command line. The package is completely protected from nonprivileged users.



**Price:** \$1250

**Contact:** Karen C. McCann  
(617) 443-5106/6376  
EEC SYSTEMS INC.  
327/E Boston Post Road  
Sudbury, MA 01776

### **CARS (Computer Audit Retrieval System)**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Audit • Data collection • Programming tools  
• Report writer

CARS, developed by Sage Inc., provides various audit analysis techniques, including multifile handling, for confirmation letters, data validation, range selection, aging, sequence checking, statistical sampling, surveys, and table handling, to produce multiple reports. To activate and complete the required audit analysis, parameter creation, when completed, produces a COBOL program to interrogate the specified files or data bases in the requested ways.

A version of this product is available for VAX computers.

**Price:** \$18,000 - \$24,000

**Contact:** Michael Pemberton  
(03) 233-5244  
INFOTROL  
2 Bligh Street  
Sydney NSW 2000 Australia

### **Clock Generator**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Programming tools

These routines permit convenient, flexible use of the PDP-11 line frequency clock. Clocks generated by the Clock Generator can be thought of as self-resetting alarm clocks. DECUS number 11-164.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Collection of California U.S. Forest Service Software**

**PDP-11 Operating System:** RSX

**Keywords:** • Software utilities

Memory required: 5K to 32K.

The following summarizes the programs on the tape: count blocks on log in/log out + account generator (KBL); account block counter (in conjunction with KBL) (ABC); data entry (DAT) large and small versions; find program with added switches NA, S1, SZ (FIN); TTP with added options (TTP); indexsort to sort word processing index (IND); interuser mail system (MSG); GRFS (Permittee Fee Calculation) (GRF); CVL (CVL) for changing volume label information; WPLOG (WPA) for building WP account log-on information; XEROX (XER) for

XEROX 1200 JDL creation; mailpurge (MAI) for deleting mail receipts in in-boxes; change (CHA) data in any type file; hold (HOL) a terminal for a signed-on user; OCTAL converts binary, octal, decimal, hexadecimal numbers; Snoopy calendar (SNO); HPSET (HPS) to set tabs and log bottom on HP-2621P terminal; WPACNT (WPA) to list, add, and/or delete WP accounts from DP UNTAB (UNT); cookie (fortune) (COO); CCL (CCL); word processing startup and abort "use" and "abouse" (USE) (ABO); virtual disks system (VDS); RO mailer (MAI); WHO is logged on (WHO); BKC (BKC) force commands on another TTnn; pool status (OPA); rewind MM (REW); RUNOFF (RNO); SRD (SRD); and RO tape library (TAP). DECUS number 11-569.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### CONTRL

**PDP-11 Operating System:** RSTS

**Keywords:** • Security • Software utilities

This interactive user support and training tool allows the system manager or support personnel to monitor users on the system and to interactively control and instruct them. The observer's screen displays, exactly as it occurs, input entered by the monitored user and all output from the computer to the user's terminal. CONTRL does not affect the job being run on the monitored terminal and works on a terminal in any status. CONTRL also captures all support activities in a log file, creating valuable documentation for training and troubleshooting. CONTRL normally notifies the monitored user that he or she is being assisted; CONTRL can also be used without the user's knowledge, however.

A version of this product is available for VAX computers.

**Price:** \$980 - \$1600

**Contact:** Casey Packard  
(801) 224-5306

CLYDE DIGITAL SYSTEMS, INC.

P.O. Box 4500

Provo, UT 84603-4500

### DATE

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion • Software utilities

The DATE program can change the date in the RT-11 directory entry for a given file. Dates must be in a form acceptable in the monitor DATE command. DECUS number 11-336.

Note: No source is available.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**Digital Clock****PDP-11 Operating System:** RSX**Keywords:** • Modeling/simulation

This program simulates a digital clock on a VT52 or VT52-compatible CRT. The program has two modes of operation: hours, minutes, seconds, day, month, and year are continuously displayed in large characters; hours and minutes are continuously displayed in larger characters.

This program does direct cursor addressing and updates only the positions that have changed since the last update. The program also connects to unsolicited input by clearing the screen and exiting when the user strikes the control C or X character. When the RETURN key is pressed, the program toggles from one mode to another. DECUS number 11-399.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**Diskdoctor: Disk Recovery Service****PDP-11 Operating System:** RSX**Keywords:** • Diagnostics • Disk utilities • File transfer

This repair service enables RSX-11 system users to recover valuable files from corrupted magnetic disk media. The service is performed through specialized on-site software modules, a telephone, and a modem. Service advantages and features include:

- Restoration of a disk's file structure rather than the files, thus facilitating quick, complete recovery with minimal down time.
- Sequential analyses and copying of files to another medium should the disk's file structure be unrepairable.
- User ability to recover accidentally deleted files.
- Development of a customized disaster plan for each disk drive in the customer's computer facility. The overall system disaster plan is periodically updated to reflect configuration changes.
- Professionally trained file-recovery specialists available Monday to Friday between 8 A.M. and 5 P.M.

**Price:** \$249**Contact:** Michael Gow

(613) 748-0209

DEMAC SOFTWARE LTD.

1260 Old Innes Road

Ottawa, Ontario K1B 3V3 Canada

**Dynamic Systems Account Manager****PDP-11 Operating System:** RSTS**Keywords:** • Data collection • Security

Memory required: 16K.

When the REACT system program creates an account, the data for that account is appended to the end of the \$ACCT.SYS file. Thus,

REACT does not maintain \$ACCT.SYS in sorted order. Further, changes to accounts made by REACT and UTILITY are not reflected in \$ACCT.SYS.

The ACMAN package, which replaces the REACT program, creates and deletes accounts; changes passwords, quotas, and account names; maintains the \$ACCT.SYS file in sorted order; updates \$ACCT.SYS when changes are made; creates all accounts on any specified disk; and dumps a formatted copy of \$ACCT.SYS to LP:. ACMAN runs detached to maximize system security. Management requests are checked for correct syntax and valid operands by several utilities; MANAGE allows the privileged user to do all the above. CHGPAS allows the non-privileged user to create/delete accounts on a private disk. CHGALL changes the passwords of all accounts with the same project number at once. DECUS number 11-283.

Restrictions: As is, the programs manage only SY: and must reside in (1,2). The file ACMAN.INS tells how to change that.

Note: In this version, execution is about four times faster; two utilities and two options have been added; and the documentation has been improved and bugs fixed.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **DYNPRI**

**PDP-11 Operating System:** RSTS

**Keywords:** • Scheduling • Software utilities

DYNPRI is a dynamic priority-altering program that improves both user satisfaction and system throughput by favoring interactive jobs and disk-bound jobs over CPU-bound jobs. DYNPRI is written in MACRO, runs in 2K words, and requires very little CPU time. DYNPRI also holds open up to 14 files, optionally kills hibernating jobs after a user-specified interval, and optionally logs off jobs in a CTRL/C state after a user-specified interval.

**Price:** \$350

**Contact:** William R. Davy  
(614) 764-1585

SYSTEM PERFORMANCE HOUSE, INC.  
5522 Loch More Court  
Dublin, OH 43017

## **EVANAC — Project Accounting System**

**PDP-11 Operating System:** RSX

**Keywords:** • Billing • CAD/CAM • Project management

This comprehensive accounting package records elapsed time for any user-initiated program on the computer. When used with the Intergraph Command Environment (ICE) and graphics, EVANAC also provides an automatic backup of accessed design files and optimal disk utilization by reducing each design file to its minimum size. EVANAC



records total sign-on time, as well as the intermediate time of any activity specified by the system manager. Custom tailored to each user's needs, EVANAC prompts, verifies, and records all information applicable to client billing, such as employee number, job number, client name, and so forth. EVANAC also records the design file name while in graphics and the input and output file names for utility operations. Application programs can be tracked and billed and, with a FORTRAN subroutine interface, can even be recorded and billed by number of internal operations.

In the event of a system failure, the accounting system automatically terminates the recording of any active task. At reboot, the system prompts for the reason for the failure and maintains a log of total down time and reasons.

The accumulated accounting data is periodically backed up and processed into a common DMRS data base. Standard time reports by employee, by drawing, by client, and so forth are provided with the system. General-purpose report-writing techniques allow complete flexibility in the generation of custom reports.

**Price:** Available upon request

**Contact:** Debra P. Bressler

(713) 266-0000

EGT, INC.

11011 Richmond, Suite 700

Houston, TX 77042

### **FLUTE: Floppy Disk Ownership Arbitration Utility**

**PDP-11 Operating System:** RSTS

**Keywords:** • Disk utilities

Memory required: 22KB.

This utility for arbitrating usage of RX01/RX02 diskette drives among contending users allows them to assign/release one or more diskette drives to/from their jobs and enforces an installation-dependent time limit for how long the user can own the drive(s). A user can determine and reset the density of a mounted diskette (either single or double density). A range of operator functions is included to help administer the drives in an environment with wide user audiences. A built-in logging feature records who used which drives for how long and when. The command syntax and options are described in intrinsic help text. With slight modifications, the program will work to arbitrate any allocatable device, such as magnetic tapes, plotters, or printers. DECUS number 11-751.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Grant Clock Tasks**

**PDP-11 Operating System:** Micro/RXS, RSX

**Keywords:** • Software utilities

This program prevents you from entering an incorrect date or time into your system. No operator need enter the date or time into your system when you turn it on.

**Price:** \$50 - \$712

**Contact:** Sandra K. Graham  
(617) 894-3278

ADVANCED COMPUTER SYSTEMS, INC.

250 Prospect Street  
Waltham, MA 02154

### **GTSC 306A Calendar**

**PDP-11 Operating System:** RT-11

**Keywords:** • Scheduling

Memory required: Less than 1KW.

This package provides some basic support for the calendar clock option on the Grant Technology Systems Corporation model 306A real-time clock board for Q-bus PDP-11s. Two programs are provided: SET306 allows the user to set the clock (year, month, day, day of week, hour, minute, and second); SETDT sets the RT-11 date and time from the current values on the board. SETDT can easily be modified for use as a FORTRAN- or MACRO-callable subroutine. DECUS number 11-645.

Restrictions: The .SDTTM programmed request is used by the SETDT program and will not run, as distributed, under versions of RT-11 prior to Version 4.

Note: Assembly conditionals are provided to allow support for all the clock options. Those routines can also be assembled for systems with 50 Hz line-time clocks.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **JOBDMF/JOBDSP — Job Core Image Dumper**

**PDP-11 Operating System:** RSTS

**Keywords:** • Debugging • Software utilities

Memory required: 31K.

JOBDMF, written in BASIC-PLUS, BASIC-PLUS-2, and MACRO-11, dumps a job's memory region to a file of the name JOBn.DMP, where n is the job number that was dumped. You can also dump a specific memory region to look at a resident library or run-time system, in which case the dump file name will be MENnnnn.DMP, where nnn is the starting physical location of the dump. To verify the integrity of the job's memory area during the dump, you can STALL the system during the dump.



The output dump file for RSX-based tasks (.TSK) is in PMDUMP image format. The output for BASIC-PLUS-based programs (.BAC) is in BPDA format, with some minor oddities that BPDA will explain. If you want a dump of a resident library or an RT-11 based job (.SAV) and so on, you can still read the dump file. A second program, JOBDSP, displays the file in octal word or byte format, as well as in ASCII and Radix-50. DECUS number 11-773.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **KBSET: System Start-Up for RSTS/E**

**PDP-11 Operating System:** RSTS

**Keywords:** • Programming tools

Memory required: 5K words.

KBSET is designed to speed up the process of setting and changing keyboard characteristics. KBSET looks at an ASCII file called KBSET.KB to get information on how to set each keyboard. A report showing all keyboard settings is also printed. DECUS number 11-601.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **KDSS (Key-to-Disk Data Entry System)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Data entry

This system permits a portion of PDP-11 or VAX resources to be used as a data entry system with capabilities comparable to those of the most advanced stand-alone multiterminal key-to-disk data entry systems. KDSS can run concurrently with other applications on the system and thus may interest present or prospective RSTS/E, RSX-11M, or VMS users who have such key-to-disk data entry requirements in addition to the other applications that they wish to run. KDSS data entry and verification take place under control of formats, written in a high-level declarative language, specifying screen layout, cursor positioning, field edits (an extensive set of intrafield, interfield, and inter-record edit capabilities is available), balancing and totaling, dup and autoincrement fields, and so on. KDSS also has output reformatting facilities, as well as facilities for permitting a supervisor to monitor the data entry process through batch status and operator status displays. The performance-critical portions of KDSS are implemented in assembly language as shared code.

A version of this product is available for VAX computers.

**Price:** \$9000

**Contact:** Martha Scott  
(617) 861-0670

EVANS GRIFFITHS & HART, INC.

55 Waltham Street

Lexington, MA 02173

### **KW11—C Subroutines**

**PDP-11 Operating System:** RSX

**Keywords:** • Programming tools

Memory required: 500 bytes.

This calendar clock with battery backup includes a special protocol to set and to read the clock for secure operation. The two subroutines implement the protocol and are independent of the operating system.

Two RSX-11M tasks are included as an example. One task reads the current date and time from the operating system and sets the clock. The other task corrects the date and time of the operating system if there is a discrepancy. DECUS number 11-721.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **LOCK**

**PDP-11 Operating System:** RSTS

**Keywords:** • Menu handlers • Security

LOCK is a tool for building menus for security and system management. The menus created with LOCK guide users through the programs required to perform complex tasks. Complete on-line information networks can be constructed. Users of any privilege level can be placed within restricted accounts, with access only to authorized programs or DCL commands. Users who attempt to break out of the menu are logged off the system.

A version of this product is available for VAX computers.

**Price:** \$950

**Contact:** Casey Packard

(801) 224-5306

CLYDE DIGITAL SYSTEMS, INC.

P.O. Box 4500

Provo, UT 84603-4500

### **Log: A Log-In, Log-Out Utility for RT-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Decision support • Software utilities

Memory required: 8600 words.

This program allows the operator to log computer usage time. The record is kept by log-in category for as many as 15 categories. This information is helpful in determining when to perform power-on time-dependent preventive maintenance and in managing operator and computer time.

The operator should run this program to log in and out as he or she works from job to job. The program will inform an operator who has forgotten to log in or log out the next time and will prompt for a retroactive log in/out.



The program can display or print monthly and annual summaries of time spent and can reset the monthly and annual time count. DECUS number 11-648.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **MEMDISK**

**PDP-11 Operating System:** RSX

**Keywords:** • Disk utilities

This software product emulates the features of a hard disk in memory. MEMDISK does not involve seeks to access data and is therefore three to ten times faster than a normal disk. Highlights include improved disk speed, faster execution of heavily overlaid tasks, faster task building, and CIS hardware support.

**Price:** \$800 - \$1000

**Contact:** H. B. H. Reporter, Managing Director

021-355 3511 or Telex: 335797 FOURTH G

FOURTH DIMENSION PRODUCTS LTD.

Fourth Dimension Building, 10 King Edward Square

Sutton Coldfield, West Midlands B73 6AP United Kingdom

## **Memory Disk**

**PDP-11 Operating System:** RSX

**Keywords:** • Device drivers/handlers • Disk utilities

This set of device drivers or handlers allows you to use predefined blocks of extra or unneeded memory as an exceptionally fast disk. Memory Disk can be used as a swap file for checkpointing or as a work disk for disk-bound utility or application programs or to store program libraries to reduce task-building time.

**Price:** \$1500

**Contact:** Sales Department

(301) 864-3700

GEJAC, INC.

P.O. Box 188

Riverdale, MD 20737

## **MJCLOCK (Multijob Clock Program)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Programming tools

Memory required: 1K words.

MJCLOCK is a foreground, or system, job that displays current calendar and time values and user-defined messages on a VT100 RT-11 console terminal in a manner transparent to the background job. This program demonstrates the feasibility of routine output to the console from foreground, or system, jobs through background job completion routines, thus avoiding terminal context switching. MJCLOCK avoids conflicts

with background jobs that require full use of the video display. DECUS number 11-698.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MOCS (Master Operator Control System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Information management

Memory required: 256KB.

This system, written in BASIC-PLUS-2, automates the process of computer operations and provides a comprehensive information-based approach for storage and retrieval of console device input and output. MOCS replaces the hard copy or CRT console devices with a turnkey system that provides easy operator access to multiple computers from one central location. That concept of centralizing operations control also accurately and reliably automates the routine operator procedures, without requiring operator intervention.

A data base records all console data received from the attached computers and stores it for future on-line inquiry. An optional hard-copy feature records the console data retrieved with a time and source stamp to a hard-copy device the user specifies.

A version of this product is available for VAX computers.

**Price:** \$15,000 - \$60,000

**Contact:** Madlen R. Connor

(614) 231-2130

MBA SYSTEMS AUTOMATION, INC.

3477 E. Livingston Street

Columbus, OH 43227

### **Monitor Commands for Namelists Package**

**PDP-11 Operating System:** RT-11

**Keywords:** • File management • Programming tools

This group of keyboard monitor "executives" allows the user to use a "Namelist" file to perform keyboard monitor and other commands on a group of modules. The "executives" call up TECO files to perform the work. The TECO executive gets the namelist of modules or single files and creates further command lines that operate on the specified files.

This package can be very useful to the user who has 5 to 105 modules that make up a major program. A typical executive merges files into a single file to allow global edits. DECUS number 11-688.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**PET (Performance Evaluation and Tuning)****PDP-11 Operating System:** RSTS**Keywords:** • Information management

Memory required: 256KB.

PET, written in BASIC-PLUS-2, helps you understand, optimize, and control your computer resources. The system allows you to monitor your computer resources more efficiently by giving you reports, both written and graphic, detailing all critical functions of your system. PET collects statistics from the CPU, disks, and input/output devices to generate those reports.

PET uses very little disk space and places no burden on the CPU. PET can also perform capacity planning, by placing an artificial load on the system, allowing total control of response time. That feature is useful in maintaining a consistent operating environment for both large and small system users.

A version of this product is available for VAX computers.

**Price:** \$4000 - \$7000**Contact:** Madlen R. Connor  
(614) 231-2130

MBA SYSTEMS AUTOMATION, INC.  
3477 East Livingston Street  
Columbus, OH 43227

**PNMS III (Peregrine's Network Management System III)****PDP-11 Operating System:** ULTRIX-11, XENIX™**PRO Operating System:** XENIX™**Keywords:** • Data base management • Data dictionary  
• Networking

This data center management system allows users to manage problems at a user help desk. Other functions include inventory management, configuration management, financial management, and change management.

The computer operations manager can access the status of hardware and software problems, the location of data center inventory, and scheduled changes to configurations of hardware and software. Financial information, such as invoice reconciliation or contract expiration dates, is also available.

The user can change screen, file, and report formats. A relational data base, a report writer, and a query system are also included.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$35,000**Contact:** Leslee Mills  
(714) 855-3923

PEREGRINE SYSTEMS, INC.  
15530 Rockfield Boulevard, Building C  
Irvine, CA 92718

### **PRINIT: Printer Initialization Routine for the LA120 Printer**

**PDP-11 Operating System:** RT-11

**Keywords:** • Printing • Software utilities

Memory required: 1.5KW.

This program remotely configures an LA120 printer from a system terminal. Upon entry, the printer is initialized with default values for the horizontal and vertical pitch, form length, and margins. The operator can then modify any of those four parameters from the terminal. DECUS number 11-701.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RABBIT-1 Resource Accounting, Auditing, and Billing System**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Billing • Cost accounting  
• Information management

RABBIT-1 audits, accounts for, and allocates computer usage to individuals, groups, projects, or customers. Those users can be real accounts receivables, like a service bureau. Or, RABBIT-1 can be used to budget in-house system resource consumption.

RABBIT-1 keeps such up-to-date session data details as date, log-on time, connect time, and CPU. That audit trail gives accountants and auditors detailed invoicing backup and system security. Furthermore, RABBIT-1 calculates such charges as tape storage, equipment rental, manuals, communication costs, printer forms, and programming services. That added chargeback capability makes organizing and accessing data usage easier and quicker.

RABBIT-1's powerful report generator provides summaries, subtotals, recaps, and cross-footing for complete control of usage data. User, account, and recap reports help communicate to customers or users very effectively. The summary report prints out as either an invoice or a statement. RABBIT-1 users can design that report and others as required. The tabular-type detail report optionally lists each charge according to how much information is to be shown. The recap report is used to summarize information across accounts.

Those reports and many others help present technical data in terms that nontechnical persons can understand. All reports can be modified without reprogramming. Other RABBIT-1 reports include project accounting, disk file usage, communication analysis, tape storage rental, program usage/surcharge, production throughput, budget to date, printer usage, and end of session.



Menu-driven set-up procedures make installation quick and easy. Automatic prompting and help commands make RABBIT-1 easy to set up, maintain, and modify. Along with free remote installation, RAXCO provides free enhancements, technical support, and training.

A version of this product is available for VAX computers.

**Price:** \$995 - \$7995

**Contact:** Robert E. Nolan

(301) 258-2620

RAXCO, INC.

1370 Piccard Drive

Rockville, MD 20850

## **RABBIT-2**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Information management • Planning aids  
• Presentation aids

RABBIT-2 is a performance analysis and capacity planning tool. Bar charts and graphic displays show how much you use system components and peripherals. Charts show your system performance hour by hour, user by user, or program by program. Sketches show a profile of your average system day, your average user demands, and your average program resource requirements, even projections of your future computer needs.

System programmers, operations managers, and DP management all benefit from RABBIT-2 data. The system's output is directed to a user's terminal, printer, or plotter, where resource usage appears in graph and bar chart form. That resource-usage information is gathered by using interactive English-like commands. RABBIT-2 accepts more than 100 command functions.

You can get RABBIT-2 for image or program analysis. You choose the time interval (seconds, minutes, hours, days) and time period. For example, you can analyze resources, such as CPU, BIO, DIO, PWS, FAU, QIO, PAGES, and ELAPSED time. Then, after modification, you can review a program for efficiency percentages. Thus, you can see the true needs of a program and can pinpoint your capacity needs.

You can use RABBIT-2 monitor data as input to get systemwide demand graphs, as well as user or program demand requirements. RABBIT-2 even gives you minute-by-minute time-frame graphs, monitor snapshots that detail each use of the system. RABBIT-2 takes that material and converts cumulative resource usage values to intervals specified to get true time-interval reporting. RABBIT-2 can help you determine relative response time under various circumstances. The system reports the reality rather than the subjective user impression, which is important to the successful use of your system.

RABBIT-2 generates three basic categories of report: time interval, rank, and profile. The time-interval report is a horizontal or vertical

bar chart of resource usage. The rank report lists resource consumption by user or program in decreasing statistical order and also ranks usage by ratio, such as CPU for each connect hour. The profile report lists all entity names in the active data set, sums up all statistics, and shows the percentage breakdown for each statistic by process type.

A version of this product is available for VAX computers.

**Price:** \$995 - \$8995

**Contact:** Robert E. Nolan  
(301) 258-2620  
RAXCO, INC.  
1370 Piccard Drive  
Rockville, MD 20850

### **RABBIT-3 System Monitor**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Cost accounting • Software utilities

RABBIT-3 is a stand-alone system for complete performance monitoring and job accounting. The complete RABBIT-3 user log file shows who used what resources — when, where, and how much.

Prompter-driven parameters allow your systems manager to adjust sampling rate, disk catalog dump time, jobs viewed, and more. RABBIT-3 allows you to forecast any disk or memory shortages. RABBIT-3 also helps your accounting department send timely bills or cross-charge departments. Those charges can be in detail or in summary, showing each computer resource and user. RABBIT-3 helps you assess surcharges by program usage and project summary.

You set up RABBIT-3 by loading the tape or disk and then answering a few questions. In less than an hour, you get complete, detailed user information.

RABBIT-3, written in PDP MACRO assembler language, is small, using only about 1% of your total CPU time, depending on your sampling rate.

**Price:** \$1995 - \$3245

**Contact:** Robert E. Nolan  
(301) 258-2620  
RAXCO, INC.  
1370 Piccard Drive  
Rockville, MD 20850

### **RABBIT-4 Security System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Disk utilities • File management • Security

RABBIT-4 gives your computer maximum security. RABBIT-4 System Intrusion Prevention (SIP) restricts user activity on your system



at specific times and from particular terminals. RABBIT-4 File Intrusion Prevention (FIP) keeps unauthorized personnel and privileged users out of your classified or confidential data files and programs.

You can use this run-time system and keyboard monitor as the system default or as an auxiliary. You can secure all your system commands with RABBIT-4 SIP's local CCL feature. You can specify wildcard PPNs, days of the week, and time periods for each physical or logical keyboard — to stop unwanted users at port password time.

With logical keyboards, RABBIT-4 SIP allows flexibility in a multiplexed or dial-up environment. One logical keyboard can support several operators simultaneously. A built-in menu system serves application-oriented users. Furthermore, you can log every command typed onto the system with the day-file logging system.

Your data processing department management can set a corporate policy for data security on every level with RABBIT-4 FIP. Thus, you rid your system of any theft or deliberate destruction of data — as well as system abuse. In addition, you can use RABBIT-4 FIP to alert you of any break-in attempts. If someone tries to break in, RABBIT-4 FIP "locks up" your secret files and automatically records the break-in attempts. RABBIT-4 FIP's "security officer" lets your systems manager know of any attempted violations as they occur, in real time.

Ultimately, your applications analyst can design and build systems that let only authorized personnel use secured data. In order to view the data, users will have to use authorized programs. Those programs and user classifications give your applications analyst several ways to control access to secured data.

You get a complete RABBIT-4 log showing you all access and violation attempts; date, time, job, program, project-programmer, and keyboard are included. That log is available to your security management at all times.

**Price:** \$1995 — \$2995

**Contact:** Robert E. Nolan  
(301) 258-2620  
RAXCO, INC.  
1370 Piccard Drive  
Rockville, MD 20850

### Resource Accounting Module

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Cost accounting • Disk utilities  
• File management

This module tracks computer resources on the VAX/VMS operating system by using the ACCOUNTING.DAT data file. The module also uses the DISKQUOTA facility to record the daily disk use for each UIC. The major components are customer master file management, a UIC master file, price schedules, holiday routines, and a report writer.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$6000

**Contact:** Robert G. Jackson  
(919) 766-0571  
RESOURCE SYSTEMS CORP.  
4000 Clemmons Avenue, P.O. Box 1546  
Clemmons, NC 27012

## RESPOND

**PDP-11 Operating System:** RSTS

**Keywords:** • Operating systems • Statistics

The RESPOND performance evaluation and tuning package enables the RSTS/E system manager to solve a performance problem. RESPOND captures the important tuning and jobs-related information from RSTS/E. RESPOND's comprehensive reports and inquiries provide the performance characteristics of the computer system. RESPOND identifies critical resources and highlights areas where tuning can make the system more productive. RESPOND lets the system manager know whether to adjust system-level parameters, optimize selected application programs, or purchase additional hardware to increase performance.

RESPOND is more than a tuning aid. RESPOND captures a complete history of what happens on the system. RESPOND knows who did what, when, and from what keyboard. RESPOND monitors resources used by each user and program.

**Price:** \$2250

**Contact:** Gary Vowels  
(206) 325-2200  
MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

## RPM

**PDP-11 Operating System:** RSTS

**Keywords:** • Diagnostics • Quality control • Software utilities

Designed for the system manager, RPM evaluates system performance and resource use by identifying system bottlenecks. That information helps tune your system and can dramatically improve the response time and increase the throughput, often by as much as 50%.

Knowledge of the internal workings of the operating system is not required to use this package.

**Price:** \$3500

**Contact:** Paul Carey  
(714) 895-4790  
SOFTWARE TECHNIQUES, INC.  
6600 Katella Avenue  
Cypress, CA 90630



**RPM (RSTS/E Performance Monitor and Optimization Tool)****PDP-11 Operating System:** RSTS**Keywords:** • Diagnostics • Disk utilities • Software utilities

This performance optimization package identifies problem areas in system use, the programs that caused the problems, and the problem areas in each program. RPM can thus dramatically improve total system performance.

Information on CPU use, file processor use, user count, response time, memory use, swapping, file accesses and data cache hits, and directory or other system accesses and cache hits is available in detail in real time as each program operates. Detailed examination of a program includes CPU use, a count of I/O requests and system overhead by channel, and a count of monitor calls and system overhead by call.

RPM uses a step-by-step "cookbook" approach to system tuning. No knowledge of system tuning or monitor internals is required. Problem areas are identified through an automatic procedure that provides a report describing, in plain English, where the system performance can be improved. The report even makes suggestions for improvement.

On-line plotting, histograms, and other reports can be used to further identify problem areas. Extended monitor data collection allows collection of information available only from RPM, such as seek distance, disk use, and cache, memory, file processor (FIP), and small buffer use.

By identifying files by use, cache hits, or directory overhead, optimum placement of files on the disk or optimum use of disk caching can significantly improve the performance of programs that access these files.

RPM is written in MACRO-11 for maximum performance and minimum memory requirements. System overhead is less than 1%.

**Price:** \$875 - \$3500**Contact:** Mark Feniello

(509) 447-5631

NORTHWEST DIGITAL SOFTWARE INC.

P.O. Box 1797

Newport, WA 99156

**RSTS Performance Measurement Package****PDP-11 Operating System:** RSTS**Keywords:** • Graphics • Statistics

This package consists of four programs used at MacMillan Bleodel:

- LOGTIM.BAS stores the incremental values from the monitor statistics tables in a disk file approximately once an hour.
- PRTIME.BAS prints data files created by "LOGTIM" in tabular form by hours.
- GRAPH.BAS prints pertinent "CPU-TIME" data files created by "LOGTIM" in graph form by hours.
- SUMGPH.BAS prints a summary graph of "CPU-TIME" by days within one or more months.

DECUS number 11-199.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RSTS/E Whittier College Package, Part II**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data conversion • File management  
• Software utilities

Memory required: 16KW.

This package contains BASIC-PLUS programs that encrypt and decrypt files; access information in the monitor tables that deal with devices; search through the job tables to find out which job, if any, is associated with a given keyboard; access information in the device date block for a keyboard; print the information in the pack label block of a disk; display specified columns of files; append to existing log-in messages (or create new ones) in a range of accounts; print error messages by number or by partial contents; demonstrate Mode 8 input; convert 3- character strings into their Rad-50 representations, count the number of lines, words, and sentences in a text file; let users set alarms at their terminals and have files with illegal names; change creation and access dates for files; and print the contents of someone else's input and output buffers. DECUS number 11-754.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RSX-11M-PLUS System Accounting Reports with DATATRIEVE**

**PDP-11 Operating System:** RSX

**Keywords:** • Report writer • Statistics

Memory required: 32KW.

This account contains DATATRIEVE structures to produce reports of RSX-11M-PLUS system accounting data. The file ACCOUNT.DOC describes reports that are useful and easily adaptable to individual sites. A description of the files and how to set things up is in SETUP.DOC.

This account also contains some commands for producing reports from the console log file. Those reports work for both 11M and M-PLUS and are also described in the documents given above. DECUS number 11-680.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SENTRY-11**

**PDP-11 Operating System:** RSX

**Keywords:** • Security

This multilevel password-based security system, written in FORTRAN-77, easily integrates with any applications system.



Attempts at unauthorized entry result in the temporary shutdown of the offending terminal and immediate notification to a control terminal. The system also permits specification of access by terminal number. Source listings and documentation are provided.

**Price:** \$500

**Contact:** Tom Grimes  
(819) 449-4271

S.C.O.

Maniwaki Airport, C.P. 50  
Maniwaki, Quebec J9E 3B3 Canada

### **SIMQU (Simulated Line Printer Queue)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Modeling/simulation • Printing  
• Software utilities

Memory required: 15KW.

The SIMQU system allows any printing terminal to simulate a line printer. The system is used to allow hard-copy output at or near terminal locations. DECUS number 11-702.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Sprint**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Printing • Software utilities

This fast line printer spooling utility with minimum operating system overheads allows background printing, enabling the user to continue with other activities. Highlights are improved CPU and memory use with an instant restart facility. Sprint facilitates printing part of a file and forms alignment, providing accurate forms accounting through simple commands. Sprint can process any sequential file by using only one job slot for each spooling device while maintaining queues and supporting 1-shot spooling SYScall. Sprint includes a user interface and does not contain an idler.

**Price:** \$800 - \$1000

**Contact:** H. B. H. Reporter, Managing Director  
021-355 3511 or Telex: 335797 FOURTH G  
FOURTH DIMENSION PRODUCTS LTD.  
Fourth Dimension Building, 10 King Edward Square  
Sutton Coldfield, West Midlands B73 6AP United Kingdom

### **SPY: RSX Accounting System**

**PDP-11 Operating System:** RSX

**Keywords:** • Statistics

Memory required: approximately 1K.

This group of tasks provides accounting functions for RSX-11M Version 3.1. Information is logged on use of the system by task, UIC, and

terminal; CPU usage is logged by user tasks and by the system. The SPY system works on the system regardless of the multiuser protection feature of RSX. DECUS number 11-372.

Restrictions: SPY needs modification to run without EIS.

Price: \$5 - \$225

Contact: DECUS (see Introduction)

### **Squeezpak: Disk Compress and Optimization**

**PDP-11 Operating System:** RSX

**Keywords:** • Diagnostics • Disk utilities • File transfer

This RSX operating system utility optimizes the organization of magnetic disk data. While other system users are on line, Squeezpak provides disk optimization and the maintenance of peak system performance throughout the day's activities and operations. Squeezpak advantages and features include:

- Improved overall system throughput
- Maintenance of efficient file storage utilization, avoiding the need for media-to-media transfers and inconvenient interruptions in system usage
- Transparent disk optimization procedure
- Compression of fragmented files so that they reside within a contiguous physical space, thus significantly reducing excessive head movement
- Disk storage space that is left contiguous
- User specification of a minimum amount of contiguous disk space to be made available

Price: \$850

Contact: Michael Gow

(613) 748-0209

DEMAC SOFTWARE LTD.

1260 Old Innes Road

Ottawa, Ontario K1B 3V3 Canada

### **SRF (System Reporting Facility)**

**PDP-11 Operating System:** RSX

**Keywords:** • Audit • Diagnostics • Forecasting

This software performance monitor maximizes PDP-11 performance and capacity by identifying bottlenecks, measuring system and peripheral usage, evaluating new and existing software, and accurately predicting future computer requirements. Performance is monitored for PDP computers ranging from single-user real-time systems to multi-user time-sharing systems.

SRF automatically logs statistics for both user and task utilization, as well as for the global system. User and task statistics indicate the computer resources consumed by each user and task; the global statistics show the amount of usage of the entire system and how much capacity is available. Precise, easy-to-read activity logs enable users to identify



data center problems and relate them to a specific program, time of day, application, user, or critical hardware or software.

SRF's reports summarize the level of usage for such major components as CPU, memory, I/O, printer, terminals, and tasks. Those reports aid in selecting and justifying equipment for upgrade by showing current equipment usage levels. Historical-activity logs are used to determine usage trends and to plan for future computer capacity requirements. The report formats are compatible between the RSX-11M and RSX-11M-PLUS systems.

Computer centers gain maximum efficiency and performance from the PDP-11 when SRF is installed. SRF takes only minutes to install, and there is no sysgen. No special hardware is required.

**Price:** \$3995 - \$4495

**Contact:** Sales Department  
(301) 864-3700  
GEJAC, INC.  
P.O. Box 188  
Riverdale, MD 20737

### **SYZER: RT-11 System Sizer**

**PDP-11 Operating System:** RT-11

**Keywords:** • Statistics

This program prints out a description of the PDP-11 system it is run on, including CPU type, CPU options, memory size, and address map. The program also lists the peripheral devices found on the system by the program.

Note: The file SYZER.LST is not on the diskette. The source file is on the floppy; therefore, the user can generate the SYZER.LST file. SYZER.LST file is on the other offered magnetic media. DECUS number 11-272.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TAM (Terminal Access Module)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Forms management • Programming tools  
• Software utilities

This transaction-processing front-end module provides a wide range of capabilities for handling data entry, inquiry, and update at CRT terminals. Screen layout, prompting text, field edits, cursor positioning, and so on at the CRT are specified by formats, or sets of statements in a high-level declarative language. The formats are compiled into a library and are then executed under application program control. TAM contains an extensive set of support facilities for creating, modifying, and testing formats.

Applications communicate with TAM by way of the large message send/receive facilities of RSTS/E or with the send/receive and dynamically mapped shared-region facilities of RSX-11M. A transaction-processing application program would, as required, send messages to TAM, saying, in effect, "execute format  $x$  at terminal  $n$  and return the record of data collected." The critical-performance portions of TAM are implemented in PDP-11 assembly language as shared code.

Under VMS, the TAM format-execution code consists of a set of procedures called using standard VAX/VMS conventions. Those procedures are linked with the user program image. The TAM VAX-11 MACRO procedures are position independent and are supplied as a shareable image.

A version of this product is available for VAX computers.

**Price:** \$6000

**Contact:** Martha Scott  
(617) 861-0670

EVANS GRIFFITHS & HART, INC.  
55 Waltham Street  
Lexington, MA 02173

### **TCU-100 Clock Daemon for Digital Pathways UNIBUS Clock/Timer**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Signal processing

TCU-100 is a daemon task to be installed by way of VMR to run 10 clock ticks after the system is booted. TCU-100 copies the current date and time from the UNIBUS registers of the Digital Pathways TCU-100 clock module into the executive.

If the power-fail and mark time directives are in the system, both are executed to have the task awakened after power-fail or periodically to keep the system clock and the TCU-100 in agreement. If both directives are not present, the task simply exists. DECUS number 11-349.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TCU-50 (Timing Control Unit)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers

Memory required: 2K.

The Digital Pathways Timing Control Unit (TCU-50) is a self-supporting time keeper designed to operate in a peripheral slot of the LSI-11 system. The TCU-50 can be interrogated by the computer to give the date (month and day) and the time (hour, minute, second). The unit can also be initialized by the computer. The TCU-50 can operate on its own battery power, with the computer off, for up to three months.



Three routines support this card: TIMDAT, to update "TIME" and "DATE" in the LSI-11 to that in the TCU-50 card; TCUSET, to set the TCU-50 card to "TIME" and "DATE" in the LSI-11 system; and TCUTST, a test for the TCU-50 card. DECUS number 11-429.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TCU-50DYR Handler for RSX-11M/M-PLUS and Micro/R SX**

**PDP-11 Operating System:** Micro/R SX

**Keywords:** • Device drivers/handlers • Programming tools

Memory required: 75KW.

TCUSET/R SXSET and TCLOCK provide the software interface to the TCU-50DYR clock card. These routines set the TCU clock from the RSX-11 system time and maintain the correct date over leap day and year end. The routine TCLOCK must be scheduled to run shortly after midnight each day to ensure that leap day and the start of new year are maintained on the clock. TCUSET must be run after system time is manually changed for daylight savings time or other time/date changes. DECUS number 11-752.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TCUGET/TCUPUT Digital Pathways TCU-50D I/O**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Software utilities

These programs constitute the software interface between the Digital Pathways TCU-50D battery clock and the RT-11 system date and time. DECUS number 11-625.

Restrictions: TCUGET must be edited each year to include current year (since TCU-50D does not maintain year) and must be manually reset each leap year.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TSRUAP (A TSX-PLUS™ System Resources Utilization Accounting Package)**

**PDP-11 Operating System:** TSX-PLUS™

**Keywords:** • Cost accounting • Data collection • Statistics

TSRUAP records data for charging the cost of system resources back to the user. The package consists of a system statistics logging program, a report-generating program, utility programs and command files, and user documentation. The statistics program requires TSX-PLUS V2.2 or later.

The logging program records data on individual sessions, user disk allocation and memory use, and some miscellaneous resources use. The project and programmer numbers, the TSX-PLUS line number,

log-on date and time, and the connect time in minutes of each individual session are recorded. Disk allocation in kiloblock-minutes and memory use in kilobyte-minutes are recorded as cumulative quantities. The miscellaneous resources, defined by the system manager, can include execution of proprietary software, user-requested backups, and user disk space reallocations. Total CPU time is picked up from the data logged by TSX-PLUS in its access control file.

The report-writing program produces a system manager's summary report and individual project-programmer summary reports. The utility programs aid in selecting project and programmer numbers, logging miscellaneous charges from both the user's line and the system operator's line, and establishing the schedule of charges.

The user's guide covers specifications, installation and use, error messages, and sample command files. The chapter on specifications describes the data files. The document, in machine-readable form, is included in the binary kit.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$660

**Contact:** Nick Bourgeois  
(505) 298-2346

NAB SOFTWARE SERVICES, INC.  
P.O. Box 20009  
Albuquerque, NM 87154

### **UPFINF: Get Accounting Information for IAS**

**PDP-11 Operating System:** IAS

**Keywords:** • Software utilities

Memory required: 8KW.

This program allows IAS V3.0 users to know the amount of resources they have used. UPFINF is useful when the system manager imposes a connect-time limit or a system-use limit for each accounting period. The task can be run either in interactive or in batch mode. The task accesses to the User Profile File (UPF), the file used by the system to keep all users' accounting information. The system manager must operate in order to allow the users to run the task. DECUS number 11-670.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **UPFMOD: Modify Accounting File for IAS**

**PDP-11 Operating System:** IAS

**Keywords:** • Software utilities

Memory required: 9KW.

UPFMOD, for IAS V3.0 users, permits two types of operations to be performed on the accounting file; both operations refer to all the users belonging to a specified category identified by the user names. The first



operation consists of changing the value of a parameter to all the users belonging to a specified category; the second operation consists of generating a password for all the users belonging to a specified category. In both cases, the program accesses the User Profile File (UPF), the file used by the system to keep all the users' accounting information. That access is accomplished with read operations, in order to avoid undesirable damages to the file, and creates a new modified file, which can then be substituted for the obsolete one. DECUS number 11-671.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **USE: CPU Usage Monitor Display Facility for RSX-11M**

**PDP-11 Operating System:** RSX

**Keywords:** • Statistics

Memory required: 1K.

This facility permits the RSX-11M user to display the eight most CPU-intensive tasks on a VT52 or VT100 video display terminal. USE switches to System State every clock tick and then scans the Active Task List (ATL) until it comes to a task that is not blocked. When such a task is found, its CPU usage entry is bumped (if no such entry exists, one is created). Then the CPU usage table is sorted, and the graphics display is updated on the video terminal. USE does not handle System State CPU usage correctly. DECUS number 11-594.

Restrictions: Histograms are according to System Clock; therefore, tasks scheduled on clock may show erroneously high CPU usage. CPU does not show time spent in System State.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **USERMN: An Idle-Terminal Monitor for RSX-11**

**PDP-11 Operating System:** RSX

**Keywords:** • Software utilities

Memory required: 4KW.

USERMN examines system terminal driver data structures, looking for logged-in terminals, and scans the active task list, looking for the "owning terminal" for all active tasks. The monitor gives idle terminals first, second, and final warnings and logs all forced logouts on the system console. USERMN serves all TT: devices on the system and can be built to support DECnet HT: devices. VT100 support can be included. All time parameters are user selectable, including an optional "hibernation" period. DECUS number 11-591.

Note: This version corrects deficiencies in previous releases relating to logout of the last active terminal on the system and occasional unpredictable behavior. The program uses new directives in later releases of RSX and maps Executive directly.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### UTL

**PDP-11 Operating System:** RSTS

**Keywords:** • Security • Software utilities

This multifunctional utility provides the system manager with on-line monitoring and total operational control. UTL allows the privileged user to quickly and smoothly bring a system up or down; control system operations, such as managing disks, jobs, caching, and file usage; and set terminal characteristics. UTL provides all the functions of UTILTY and TTYSET and includes SYSTAT, REACT, ATPK, PLEASE, UMount, and SHUTUP.

**Price:** \$345

**Contact:** Paul Carey

(714) 895-4790

SOFTWARE TECHNIQUES, INC.

6600 Katella Avenue

Cypress, CA 90630

### VCS (Viking Control System)

**PDP-11 Operating System:** Micro/Rsx, RSX

**Keywords:** • Programming tools • Security

This menu-driven terminal interface makes it possible to perform specific jobs without access to the operating system command language. Used in conjunction with the Viking Forms Manager, VCS provides easier use of your computer while establishing greater control and security. Production statistics can be maintained for users and jobs, which can be either programs or command files.

VCS presents personnel who are not computer professionals with the menus that contain only the items they need to use. Those items are dynamically chosen, based on each user's VCS access privileges. Options are described with a 20-character phrase, eliminating the need to memorize keywords and command language syntax.

The VCS Statistics File can record every selection made by the user and can include production statistics, such as the number of records processed or the number of keystrokes/hour. Thus, a complete audit trail of users can be recorded and then reported in a variety of ways.

A version of this product is available for VAX computers.

**Price:** \$1000

**Contact:** John R. Haley

(918) 745-6550

VIKING SOFTWARE SERVICES, INC.

2815 E. Skelly Drive, Suite 816

Tulsa, OK 74105



**VLOAD: A Program for RT-11 Extended Memory Monitor****PDP-11 Operating System:** RT-11**Keywords:** • Software utilities

Memory required: 28KW.

This program runs an unoverlaid foreground or system virtual job so that it runs with full (or part, programmer-selectable) 32K words of memory. As a result, the program takes up no more than 4K words in the background job's space and makes the most of the extended memory. DECUS number 11-741.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**VM****PDP-11 Operating System:** Micro/RSX, RSX**Keywords:** • Device drivers/handlers • Disk utilities

The VM disk driver is used like any other disk-class device on your RSX system. Any operation valid on a standard disk device is also valid for the VM memory disk device. VM can be initialized, mounted, and dismounted, but the data is being read or written not from a disk but from your system's main memory. Using VM in place of a standard disk for your disk-intensive applications, such as checkpointing, swapping, data and work files, and heavily overlaid task files, can increase performance.

The size of the VM device is determined by the amount of system memory allocated to it. Each K word of memory allocated to VM will yield four disk blocks.

Installation of VM is automated and can be done by a novice RSX user. Once installed, VM is controlled by a suitably privileged user executing a single command line. The package is completely protected from nonprivileged users.

File security is ensured by the standard RSX protection scheme. All data on the VM disk is erased when VM is first enabled and again if VM is disabled, ensuring security for any sensitive data that you store on VM.

**Price:** \$995**Contact:** Karen C. McCann

(617) 443-5106/6376

EEC SYSTEMS INC.

327/E Boston Post Road

Sudbury, MA 01776

**W****PDP-11 Operating System:** RSTS**Keywords:** • Operating systems • Software utilities

This all-purpose utility program is designed to return commonly requested system information to the user. The program recognizes 18

commands, with the option of stacking commands together. The program is a fill-gap program for the RSTS/E environment, providing the user with a single source of system information. As a CCL, W can return a maximum amount of information with minimum keystrokes.

A PDP-11/44/70-series CPU, RSTS/E Version 7.0-9, at least 7K user memory allowed, and BASIC-PLUS or BASIC-PLUS-2 on the system are required.

**Price:** \$140

**Contact:** John A. Kraenkel

(415) 949-2390

MARQUEE COMPUTING

456 Tyndall Street

Los Altos, CA 94022

### Whetstone Benchmarks

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Statistics

The FORTRAN Whetstone Benchmarks for comparing computer performance are compute bound and heavy on the floating point. Both single- and double-precision Whetstone Benchmarks are included. DECUS number 11-699.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### WUTIL

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Programming tools • Software utilities

This utility program, available in BASIC-PLUS and BASIC-PLUS-2, can return the time, date, job number, keyboard number, version, account, status, run time, Q&D directory, memory usage map, and errors (in English).

WUTIL uses 8K; clears memory.

**Price:** \$140

**Contact:** John A. Kraenkel

(415) 949-2390

MARQUEE COMPUTING

456 Tyndall Street

Los Altos, CA 94022

### ZIPSORT-11

**PDP-11 Operating System:** RSX

**Keywords:** • Programming tools • Software utilities

ZIPSORT-11 is a comprehensive sort and merge utility that optimizes main storage and execution time requirements.



**Price:** \$700

**Contact:** CCA

(617) 868-1111

CAMBRIDGE COMPUTER ASSOCIATES

222 Alewife Brook Parkway

Cambridge, MA 02138

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## Construction



Robert Pyle

## **AGGDISS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Billing • Distribution • Production control  
• Scheduling

AGGDISS is designed to aid sales, production, weighing, dispatching, and subsequent invoicing in the aggregate and asphalt industries. This aid is accomplished through order entry, weighing, ticketing, production reporting, scheduling, and invoicing. The system can interface to most other accounting systems and computers for invoicing.

**Price:** \$5000 - \$40,000

**Contact:** James R. Wagner  
(612) 559-4132

ADVANCED CONTROL SYSTEMS  
13809 Industrial Park Boulevard  
Minneapolis, MN 55441

## **Builder (Homebuilders System)**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Cost accounting • Real estate

This residential-contractor system monitors costs of material and labor and applies them against each lot and unit. Cost reports can be obtained at any time, comparing costs to budget and other like models.

A complete buyer profile analysis is built into the system to assist in future advertising plans.

A version of this product is available for VAX computers.

**Price:** \$2500 - \$10,000

**Contact:** Nigel Harris  
(613) 829-8888

HARRIS COMPUTER SYSTEMS  
16 Credit Union Way  
Nepean, Ontario K2H 8R6 Canada

## **Cobra**

**PDP-11 Operating System:** RSX

**Keywords:** • Calculation aids • Graphics  
• Modeling/simulation • Structural engineering

This program, developed by J.T. Ltd., is for the analysis, design, and detailing of reinforced concrete beams in accordance with CP110. The system produces design calculations, reinforcement fixing details, and bar-bending schedules when given the beam dimensions, span lengths, and loads. The three phases of analysis, design, and detail are automatic, with optional manual intervention at each stage. Cobra produces shear and moment envelopes for each beam, arrangement of bars at supports and spans, and drawings of the reinforcement fixing details.



The program is written in FORTRAN; the smallest configuration required is a MicroPDP with disk, terminal, printer, and plotter.

A version of this product is available for VAX computers.

**Price:** £7500 – £15,000

**Contact:** Trevor Lightburn  
(0332) 31517

CAMIC LTD.

47/49 Bridge Street

Derby DE1 3LB United Kingdom

### **COMADS (Computer-Aided Dispatching)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Inventory • Order processing • Production control  
• Scheduling

COMADS is designed to aid sales and bidding, dispatching, production, and subsequent invoicing in the ready-mixed concrete industry. This aid is accomplished through order entry, ticket generation at the proper plant, production reporting, scheduling, and dynamic truck tracking. Truck status can be received by means of a mobile signal system mounted in each truck. The system can interface to most other accounting systems and computers for invoicing.

**Price:** \$5000 – \$100,000

**Contact:** Jim Wagner, President  
(612) 559-4132

ADVANCED CONTROL SYSTEMS

13809 Industrial Park Boulevard

Minneapolis, MN 55441

### **Constructimate**

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**Keywords:** • Accounting • Cost accounting  
• Project management • Scheduling

This accurate, efficient, and comprehensive construction management system can be configured for both residential and commercial contractors. The system's modules are job costing, standard costing (for home builders), cost estimating (for general contractors), critical-path management, general ledger, payroll, accounts receivable, and accounts payable.

The integrated menu-driven system eliminates manual postings for each module. Accounts payable and payroll entries update both job costing and financial reports, and posting to multiple profit centers, jobs, and phases is accommodated. Historical job costing data is displayed for comparison while preparing estimates.

Besides the standard accounting reports are the job cost and projected cost reports, job contract summary, application for payment, model and

option estimate listings, standard job cost listing, historical cost analysis report, job estimate report, final estimate report, critical-path chart, and critical-path bar graph.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$6000

**Contact:** Dwight Johnson  
(303) 574-8086

PROFESSIONAL COMPUTER SERVICES  
2345 N. Academy Boulevard, Suite 209  
Colorado Springs, CO 80909

### **Contractor Cost Accounting System**

**PDP-11 Operating System:** Micro/RSTS

**Keywords:** • Billing • Cost accounting  
• Information management • Project management

This system, written in DIBOL 83, combines job cost reporting for management with a complete accounting system for construction companies and contractors. The reporting system compares actual cost with bid estimates by dividing jobs into distinct activities and activities into multiple lines according to the organization of the bid sheet. The accounting system records labor, billing, and purchase transactions and prints payroll and vendor checks. The month-end accounting figures collect to the general ledger and report on financial statements and supporting schedules. Special features include separate reporting for smaller time and material jobs, subcontract activity, change orders, and billing, using the standard AIA contractor billing report format.

**Price:** \$8500

**Contact:** Margaret Hodder  
(617) 484-1709

CORPORATE CONSULTING CO.  
556 Trapelo Road  
Belmont, MA 02178

### **Contractor Management System**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Accounting • Cost accounting • Management  
• Payroll

This comprehensive system provides total management control over job costing and the related contractor payroll functions. The system's flexibility and simplicity allow in-house use by all phases of the contractor market. The fully integrated system allows updating of all phases of job cost information, check writing for payroll, and generation of job costing and payroll-related reports.



The system allows an unlimited number of jobs and classifications. Payroll may be distributed by department, job, federal labor classification, cost code, and source. The system also provides multiple occupational rates for state and federal jobs, other multiple pay rates, overtime rates, deductions, and union burdens. The system also calculates taxes and workmen's compensation and prints government forms, such as W-2s and 941s.

For job costing, the system provides flexibility in formatting jobs and cost breakdowns, the ability to track both units and dollars for each job breakdown, and 16 types of job cost reports, with numerous run-time selection options. The system prints budget to actual, including the respective variances and percent-complete figures for each job phase.

The system automatically posts the payroll module to the general ledger and job cost modules. Job cost information is updated automatically from accounts payable, accounts receivable, equipment cost, and purchase order. The system allows complete editing and audit trail of journalizing for verification prior to posting to permanent records.

The Contractor Management System consists of the basic general ledger program, job cost (which includes a payroll module), accounts payable, loan amortization, and fixed-asset accounting (depreciation). An optional interface to job cost is available with purchase order, accounts receivable, equipment cost, and bank reconciliation.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls

(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL

114 E. Gregory Street

Pensacola, FL 32501

### **CPM (Critical Path Method)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Civil engineering • Project management  
• Scheduling

CPM computes critical path for medium-size to large construction projects with a maximum of 1000 individual tasks. CPM sorts by early and late starts, early and late finishes, total float, bid items, and sequentially. Dollar values for each task and the total for the project are printed by option.

A version of this product is available for VAX computers.

**Price:** \$995

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

## Equipment Cost

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Billing • Cost accounting • Property maintenance  
• Scheduling

This system helps a contractor maintain control of vehicles, equipment, and tools by providing information on revenue, cost, and maintenance scheduling. The system is interfaced to general ledger, job cost, and job cost payroll modules.

Some of the significant features are:

- User-defined revenues and costs
- Ten user-defined fields in the equipment master file in addition to standard items
- Multiple billing rates for each piece of equipment
- Rental billing capability by hour, day, week, or month
- Maintenance scheduling by dates or units
- Numerous management reports with variable sort features

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls

(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL

114 E. Gregory Street

Pensacola, FL 32501

## Estimating System

**PDP-11 Operating System:** RT-11

**Keywords:** • Architecture • Bill of materials  
• Civil engineering • Project management

This easy-to-use system prepares estimates, tenders, and bids based on bills of quantities for building contractors. The Estimating System can also be used for cost planning early in a project, preparing bids for contracts, and valuing work and estimating costs once the project is under way. The system contains a price book with plant, labor, and material prices and subcontract and notional rates for similar work executed on previous projects.

Project Software has subsidiaries and distributors in the United Kingdom, United States, and other parts of the world. In the United States, contact John Gillespie (718) 024-2587, Project Software Inc., 257 Hicks Street, Brooklyn, NY 11201.

A version of this product is available for VAX computers.

**Price:** £5000 - £7500

**Contact:** Martin Barnes, Director

061-439 6639 or Telex: 666650

PROJECT SOFTWARE LTD.

Foden Lane, Woodford

Stockport, Cheshire SK7 1PT United Kingdom



**ETAKE 2 (Estimating, Takeoff, and Pricing System)****PDP-11 Operating System:** RSX**Keywords:** • Cost accounting • Electrical • Engineering  
• Sales analysis

This system for general and electrical contractors includes four modules for takeoff, job pricing and reporting, estimating utilities, and system logoff and wrapup. An optional module, bid closing, assists the contractor in organizing and analyzing bids from subcontractors. The user may customize the system and control all data records.

A version of this product is available for VAX computers.

**Price:** \$6700 - \$12,000**Contact:** Robert Sprowls  
(800) 874-2400

DIGITAL SYSTEMS, A DIV. OF UCCEL  
114 E. Gregory Street  
Pensacola, FL 32501

**FACS — Job Costing****PDP-11 Operating System:** RSTS**Keywords:** • Cost accounting • Financial analysis

This package can be tailored to the requirements of the largest general building contractor business or the solely owned subcontractor company. The system features direct interface to the FACS G/L, FACS Payroll, and FACS A/P; immediate detail on the progress of each project; flexible input, reporting, and maintenance of estimates, budgets, and change orders; job accounting on either a completed contract or a percentage of completion method; variance analysis on budget, committed, and forecast for amounts, units, hours, and unit costs; and interface to subcontractor's subsystem and the purchase order subsystem.

Reporting features include full, flexible reporting on direct costs, labor, purchase orders, subcontractors, and overhead in summary or in detail; full labor cost analysis annually, monthly, or for each payroll period for amounts, units, hours, and unit costs; project cost ledger for month or project-to-date detail; project comparison reporting for sales price, drawn to date, and cost to date; and user-defined job costing reports with the ability to include purchase orders. All reports can be printed to the screen or to a hard-copy device.

A version of this product is available for VAX computers.

**Price:** \$2000**Contact:** Steven L. Buth

(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.

West 915 Second Avenue  
Spokane, WA 99204

**ICONS (Integrated Construction System)****PDP-11 Operating System:** Independent**Keywords:** • Accounting • Cost accounting • Payroll

ICONS is the result of a multidisciplinary staff of construction industry specialists in accounting, finance, administration, and software engineering. The package addresses multistate, multirate capabilities, including Davis Bacon Posted Wage Rate projects, as well as union and certified payrolls. The system modules are integrated with an extremely flexible job-costing function that includes variance reporting, up to 10,000 user-defined cost breakdowns a project, individual change-order tracking, equipment costing to projects, cash flow and profitability by job, and bonding company and bank analyses of uncompleted work.

The accounts payable function recognizes retainage as a separate item, tracks change orders and progress on subcontractors, and provides discount information, total cash-requirements data, subcontractor and vendor histories, and immediate screen review of all invoices. The module also allows payments by oldest balance, by specific dollar amount, or by date; retainage may be excluded. Accounts receivable, general ledger, cash disbursements, and equipment functions are also included. ICONS can handle multiple companies, each as a separate accounting entity.

**Price:** \$5600 - \$8900**Contact:** Peter L. Scribner  
(603) 627-4144

CREATIVE INFORMATION SYSTEMS, INC.  
500 Harvey Road  
Manchester, NH 03103

**INTEREST (Interactive Estimating)****PDP-11 Operating System:** RSX**Keywords:** • Civil engineering • Cost accounting  
• Financial planning

This interactive system enables building and civil engineering contractors to accrue rates from first principles and to use stored cost and performance data. INTEREST produces priced bills of quantities and a series of reports for the tender meeting. The same data can be used in cash-flow forecasting, planning, valuation, and costing. INTEREST allows the user to add a time element to each activity and, with existing stored data, to produce cash-flow analysis and bar chart activity reports.

A version of this product is available for VAX computers.

**Price:** £15,000**Contact:** Trevor Lightburn  
(0332) 31517



CAMIC LTD.  
47/49 Bridge Street  
Derby DE1 3LB United Kingdom

### IV-11 Inventory Control System

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Cost accounting • Inventory • Manufacturing  
• Warehousing

Aimed at companies that need to track and charge parts to specific jobs or projects, IV-11 is useful to firms that maintain their own warehouses and must closely control their spare parts inventories. The system interfaces directly to CN-11, a job cost system that is part of the integrated Compu-Share, Inc., accounting system.

The inventory part(s) can be queried by the assigned stock number, by manufacturer's number, or by description. If a company has multiple warehouses, the system can be instructed to query an alternate warehouse in search of an item. Alternate warehouses in this context can also include repair trucks that maintain an inventory of parts. A simple transfer procedure permits restocking the trucks as supplies are used.

A warehouse check-out screen is provided that permits charging the stock item to a project number. The system prompts for a project code and then validates the input against established projects defined within the CN-11 Job Cost System.

The system keeps track of the supply cost of a project and of the inventory stock levels and triggers item reordering. The system notifies the user that an item is at or below a designated level and suggests a reorder quantity, based on maximum levels defined.

The system tracks the cost of received items on a weighted-average basis. The system allows charging the item to a project on a standard unit cost, if desired.

Detailed usage of parts consumed is available through the CN-11 Job Cost System.

A version of this product is available for VAX computers.

**Price:** \$1600 - \$2500

**Contact:** William E. Walo

(702) 384-7641

SIMCO, INC.

801 S. Rancho Drive, Suite E2B

Las Vegas, NV 89106

### Job Cost

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS

**Keywords:** • Accounting • Cost accounting  
• Project management • Report writer

This layered package requires our Payroll, General Ledger, and Accounts Payable systems as a base. These four packages work together to provide a complete method of posting job cost information to projects and cost centers. Other user-oriented features include:

- User-defined project codes with up to 15 characters and an unlimited number of user-defined cost centers allowed
- Only one entry required to post an invoice to Accounts Payable and to distribute the costs to cost centers and projects
- Payroll information distributed from the Payroll system on an employee basis to cost centers and projects
- Manual postings allowed
- Transfers between projects and cost centers allowed
- Estimates for projects and cost centers can be posted
- Reports in detail or summary for a range of projects and an unlimited date range
- An audit trail for all entries provided by transaction journals
- A password security system
- Interfaces to the Accounts Payable, Payroll, and General Ledger; other complementary products include the Accounts Receivable, Fixed Assets, Order Entry, and Inventory Control systems

Job Cost reports include a project cost analysis; a cost center analysis; a labor, materials, and subcontract report; and project and cost center listings.

The user's guide includes information for the office manager, the terminal operator, and the application supervisor. The reference manual provides information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$6000 - \$10,000

**Contact:** Sales Department  
(806) 792-3785

COMPU-SHARE, INC.  
3824 50th Street  
Lubbock, TX 79413

## **Job Costing**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Cost accounting • Project management

This flexible system for construction companies, specialty fabricators/erectors, and project managers provides up-to-date job information, reports on performance and costs, and provides a cost and unit breakdown of the cost elements. Both actual and interim costs are processed. Information is provided for performance analysis and detail costs, including units, unit and lot costs, budgets, variances, current and projected margins, and more. The system features multicompany concept, unique job setup, job cost elements, early/prior-period entries



and adjustments, full function and performance reporting, reporting flexibility, data base concept, full inquiry capability, interface to other systems, and information updating.

A version of this product is available for VAX computers.

**Price:** \$5000 – \$15,000

**Contact:** Tom Muskiluke

(519) 893-4200

DIGITAL BUSINESS COMPUTERS

133 Manitou Drive

Kitchener, Ontario N2C 1L4 Canada

### **PRODAT (Project Day Computation)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Civil engineering • Project management  
• Scheduling

PRODAT computes the dating sequence for any construction-project duration, considering holidays, overtime, and so forth. Output depicts the entire project and the relationship of the nth day of the project to the calendar date. Leap years are considered. PRODAT is written in ANSI (1966) FORTRAN IV.

A version of this product is available for VAX computers.

**Price:** \$200

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

### **Purchase Order System**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Order processing • Purchasing

This flexible, comprehensive module interfaces to the accounts payable, general ledger, and job cost modules in the Contractor Management System.

Some of the features are:

- Up to 99 line items for each purchase order, with each line item assigned to a vendor and charged to a job, category, class, and source
- Individual item status maintained and indicated by open, received in full, partially received, or canceled
- Units on order, unit cost, description, and inventory number maintained
- Flexible report capabilities by job, vendor, issue, or delivery date
- Committed-cost reporting
- Automatic posting to job cost, accounts payable, and general ledger as items are received

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls

(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL

114 E. Gregory Street

Pensacola, FL 32501

### Series DEC

**PDP-11 Operating System:** Micro/R SX

**PRO Operating System:** P/OS

**Keywords:** • Accounting • Decision support

• Financial management • Project management

Series DEC, written in RM-COBOL, is a fully integrated construction management package for contractors. The package includes the full-function capabilities of job cost, general ledger, accounts receivable, accounts payable, and payroll. All of those applications are fully integrated and require that transactions be entered only once to update every other application. Although the package is easily user installable, on-site assistance is available.

**Price:** \$1500 - \$2500

**Contact:** Bill Brettschneider

(301) 345-5300

CONCORD MANAGEMENT SYSTEMS, INC.

5301 W. Cypress Street

Tampa, FL 33607

### TABS (Total Application for Building Suppliers)

**PDP-11 Operating System:** RSTS

**Keywords:** • Credit • Inventory • Retail • Wholesale

This user-friendly software system for building-material retailers, wholesalers, and home improvement centers emphasizes inventory control and customer credit and provides the full range of functions and reports. A few highlights of TABS are:

- A point-of-sale option for retail establishments and back-office order entry for wholesalers
- Multitasking (any application may be run simultaneously with virtually any other application)
- Time-sharing attributes, with file sharing
- An expedient management-by-exception approach to data retrieval
- Menus, prompts, and other interactive aids
- Secure password protection for each branch of menu, with restricted access to the operating system
- Screen scrolling for convenient on-line inventory item and customer search
- User-defined system defaults and other time-saving features
- Screen display of virtually any hard-copy report
- Full audit trails, legality-check network, and data editing



The standard TABS package consists of six fully interfaced, interactive software modules: order entry/inventory, accounts receivable, accounts payable, purchasing, general ledger, and payroll. Each module can also function independently, as well as be interfaced to optional software.

A version of this product is available for VAX computers.

**Price:** \$15,000 +

**Contact:** Hugh MacDonald, Sales Manager  
(617) 964-4011

COMPUTER SOFTWARE CONSULTANTS, INC.  
200 Boylston Street  
Chestnut Hill, MA 02167

### **TSI JobCost**

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**Keywords:** • Cost accounting • Project management

This construction job costing package conforms to the cost categories established by AIA and is intended for all forms of construction project job cost analysis. The software is compatible with these MCBA modules (Version 6.1 or later): General Ledger, Accounts Payable, Accounts Receivable, Payroll, Inventory Management, and Fixed Asset Depreciation integrated packages.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$12,000

**Contact:** Fred Ross  
(505) 524-2154

TECHNICAL SOLUTIONS, INC.  
P.O. Box 1148  
Mesilla Park, NM 88047

The following information is provided for the purpose of  
 providing information to the public regarding the  
 activities of the Department of the Interior, Bureau of  
 Land Management, and the National Forest System.

For more information, please contact the following:

Phone: (202) 219-2100

Contract: 1997-1998, BLM-1997-1998

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## Data Conversion



Camerique

## **ADCON (A/D Conversions) Package for Use with ADV11-C and KVV11-C**

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Signal processing • Software utilities

Memory required: 21KW.

ADCON is characterized by digitizations from eight differential analog input channels, up to 1-KHz sampling rates, software programmable gain, 12-bit data resolution, and dc offset corrections and data calibrations. The package includes user instructions, a FORTRAN IV program that sets up for the A/D conversions and that performs corrections and calibrations of the digitized data, a MACRO-11 program that controls the A/D conversions, and listing files for the FORTRAN IV and MACRO-11 programs. Suggestions for software and hardware setup are included for users who require more customized A/D conversion schemes. DECUS number 11-664.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **ADF01/RSX Subroutine Library**

**PDP-11 Operating System:** RSX

**Keywords:** • A/D, D/A • Data collection

The ADF01/RSX Subroutine Library for RSX-11M/S and RSX-11M-PLUS provides the user with a FORTRAN high-level language interface to the ADF01 data-acquisition subsystem. This product is available in Europe only.

The ADF01, a high-speed multichannel analog data-acquisition subsystem (DAS), is connected to the PDP-11 UNIBUS or LSI-11 bus through the DRU11-C or DRQ11-C DMA interface. The device has 16 single-ended or 8 differential input channels. Conversion on a selected channel takes place on receipt of a clock pulse that can be programmed by user input or from an internal programmable clock. For each conversion, the gain and channel number are contained in one of 1024 entries in the ADF01 control table. The control table can then perform a large, fixed sequence of conversion operations.

In addition to subroutine calls, the package includes a set of command files to generate a control word table, to link the control table and user program, and to build the ADF01/RSX Subroutine Library. The package also contains programs to calibrate the system and to run a DAC-ADC loop-back test.

Refer to SPD #13.33.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).



## **ASCII to EBCDIC or EBCDIC to ASCII String Translation (FNEBCASC)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Translators

This function may be appended to a BASIC-PLUS program that must do ASCII to EBCDIC (or the reverse) conversions. Two arguments must be supplied: the target string and the code indicating in which direction the conversion should be done. DECUS number 11-324.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **BASIC-PLUS System Dependency Flagger**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • File transfer • Programming tools  
• Software utilities • Statistics

Memory required: 11,264KB.

This utility helps conversions of BASIC-PLUS or BASIC-PLUS-2 programs from PDP-11 systems to VAX/VMS by reading the BASIC source code and reporting on lines that contain flowing-system-specific dependencies. The program can be compiled and run under VAX-11 BASIC or under PDP-11 BASIC-PLUS-2.

Input to the utility can be either a single file name or an indirect command (@filename), which names a file that contains a list of file names to be examined. Output consists of a report file and summary information printed on the user's terminal. The report file lists the EDT line numbers, by file, where system-dependent code has been detected. Summary information printed on the terminal includes a summary by file name of the types of system dependencies encountered.

This utility can be used to quickly scan a large number of files and to report the specific dependencies, as well as statistics on the overall kinds of system dependencies of the application programs at a user site. That information can then be used as one input to a conversion-planning process. DECUS number 11-682.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **BCD Magtape Conversions**

**PDP-11 Operating System:** RSX

**Keywords:** • File management • File transfer

Memory required: 6K (BCD2AS); 10K (FL2BCD and AS2BCD.MAC).

BCD/ASCII conversion (BCD2AS) changes an HIS/G-635 system standard tape with one file to a tape that can be read by the PDP-11/45. The output tape consists of 8-bit ASCII character records, the same size as the input tape's logical records.

ASCII/BCD conversion (AS2BCD.MAC) changes a foreign volume tape with unblocked ASCII records of up to 2000 characters to an HIS/G-635 system standard tape that can be used for batch processing.

Files-11 to BCD system standard tape conversion (FL2BCD) is the same as AS2BCD; however, instead of converting a foreign tape to a BCD GCOS system standard tape, FL2BCD converts one Files-11 file to a BCD tape. This program changes the name of the Files-11 file to become a general utility. The documentation is the same as AS2BCD, except that every time a foreign tape is referenced, a Files-11 file should be substituted. DECUS number 11-382.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **BSO/Fmtcnv (Format Conversion Program)**

**PDP-11 Operating System:** IAS, Micro/RX, RSX, TNIX

**Keywords:** • Application development  
• Microprocessor development

Memory required: 128KB minimum.

BSO/Fmtcnv permits users of emulators to develop applications in the multiuser, high-speed environment of DIGITAL's computers and still perform symbolic debugging on the emulators. BSO/Fmtcnv reformats object files from BSO to and from Intel binary and H-P binary formats. Symbols are supported.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department  
(617) 894-7800

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

### **BSO/Objcnv Format Conversion Program**

**PDP-11 Operating System:** IAS, Micro/RX, RSTS, RSX, RT-11,  
TNIX

**Keywords:** • Microprocessor development • Programming tools

Memory required: 64KB.

The Objcnv program permits the microprocessor system developer to convert programs in one microprocessor object format to another, regardless of manufacturer. Programs can be converted between BSO format and Intel, Motorola, Texas Instruments, Tektronix, Zilog, H-P, Emulogic, and Millennium (using Intel format).

Intel symbolic object format and Tektronix 8001/8002/8540/8550/8560/8561 MDL symbolic format (extended Teknex) are also supported. A DIGITAL computer user can therefore develop programs for any



microprocessor on a fast single- or multiuser system. Then the program can be transmitted in the proper format to the test board, emulator (ICE), or PROM programmer.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department

(617) 894-7800 or TWX: (710) 324-0760

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

### **CADO2C (Conversion Package for CADOL Software)**

**PDP-11 Operating System:** Independent, ULTRIX-11

**Keywords:** • File transfer • Translators

CADO2C is a translation program and run-time library, written in C, that converts source code written in Contel CADO System's CADOL to the C programming language. CADO2C allows the software developer and end user to migrate any application software running on Contel CADO hardware to any DIGITAL operating system that supports C.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$75,000

**Contact:** Dov Prombaum

(312) 355-9678

SOFTTRAN CORP.

One Naperville Plaza

Naperville, IL 60540

### **Computer Byte or Word Checker**

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Programming tools

Memory required: 16K bytes.

This program, written in assembly language, maps out on your terminal eight lines of information. When a byte or a word is input in either octal or bit numbers, the program takes over. The result is easy to read and can be printed on 80- or 132-character terminals. All you supply is the word or byte. Knowledge of words and bytes is the foundation of better programming.

Directions are included for installation. A self-instructional course will guide you to a full understanding of the program. This short course alone will increase your PDP-11 power.

**Price:** \$49.95

**Contact:** Bob Stalder

(608) 241-5483

COMPUTER PROGRAMS

3508 Furey Avenue

Madison, WI 53714

**CONPAX****PDP-11 Operating System:** IAS, RSTS, RSX, RT-11**Keywords:** • Programming tools • Software utilities  
• Translators

CONPAX, a utility that converts PDP-11 assembly code to VAX-11 "native mode," runs on both PDP-11 and VAX-11 computers and produces VAX-11 assembler source code more quickly and with fewer errors than can be accomplished by manual conversion. Conversion to "native mode" provides the full power of the VAX-11 hardware and software, in contrast to the substantially slower execution speed and limited capabilities of "compatibility mode."

In the conversion process, CONPAX uses addressing modes and other information from the PDP-11 assembly code to produce the VAX-11 conversion for each line, including generation of multiline alternatives when appropriate. CONPAX automatically handles details such as octal constants, ASCII literals, and register names and includes a general macro capability that can be invoked at conversion time.

The conversion process is heavily table driven, and the conversion tables can be "tuned" by the user to a specific programming environment.

A version of this product is available for VAX computers.

**Price:** Available upon request**Contact:** Stephen F. Heffner  
(609) 737-2727

PENNINGTON SYSTEMS INC.  
65 South Main Street, Building C  
Pennington, NJ 08534

**Convert Tape Utility****PDP-11 Operating System:** IAS, MicroPower/Pascal, RSTS, RSX**Keywords:** • Diagnostics • Documentation tools • File transfer  
• Software utilities

Used in the transfer of files between the DIGITAL and IBM environments, this utility creates and processes labeled or nonlabeled tapes from ASCII to EBCDIC and EBCDIC to ASCII formats; provides selected density — 800 bpi, 1600 bpi, and 6250 bpi — allows use of IBM high-speed laser printers; offers multireel support, error-message handling, and a help function; allows dumping of a file in any format to any type of terminal and the spooling of files to a single tape; and ensures that all data is processed.

Markets include users who require installations running on both a DIGITAL and an IBM mainframe or users who must interface with IBM environments for either the creation of a tape or the processing of an IBM-formatted tape.

An educational discount is standard.



A version of this product is available for VAX computers.

**Price:** \$3000

**Contact:** Richard F. Dyas

(201) 548-4660

EDISON SOFTWARE SYSTEMS

190 Lincoln Highway

Edison, NJ 08820

### **DACON: D/A Conversions Package for Use with AAV11-C and KVV11-C**

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Debugging • Signal processing

Memory required: 4928KW.

This package, written in FORTRAN IV and MACRO-11, can be used with DIGITAL's AAV11-C digital-to-analog conversion and KVV11-C programmable real-time clock boards. The characteristics include D/A conversion from four digital input channels, up to 1KHz sampling rate, 12-bit data resolution, and dc offset corrections and calibrations of the data.

The package includes user instructions and programming examples, a FORTRAN IV program that sets up for the D/A conversions and performs corrections and calibrations of the input digital data, a MACRO-11 program that controls the D/A conversions, and listing files for the FORTRAN IV and MACRO-11 programs. DECUS number 11-757.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DATA-LOCK®**

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • File management • Security

Memory required: 45KB.

This data encryption software product allows system users to protect their data stored on disk or transmitted over lines. Data protected with DATA-LOCK is secret to a key holder and private from everyone else — even the system manager. DATA-LOCK incorporates an extremely fast implementation of the U.S. Bureau of Standards Data Encryption Standard (DES), providing full key management support and an optional user program interface.

DATA-LOCK is written in Pascal and assembler and is available on all standard distribution media.

A version of this product is available for VAX computers.

**Price:** \$500 - \$2000

**Contact:** Dr. John Yardley

44 (01) 949-1088

JPY ASSOCIATES LTD.  
138 High Street  
New Malden, Surrey KT3 4EP United Kingdom

## **DB\*SCAN**

**PDP-11 Operating System:** RSTS

**Keywords:** • Bar coding • Data collection • Education  
• Inventory

This comprehensive software system provides optical mark reader interfacing for the NCS Sentry 3000 series to PDP-11 and VAX computer systems. Interfacing for the NCS Sentry 700n series and DIGITAL Rainbows, PDP-11s, and VAXs is also available.

Optical mark readers are used in education for testing, grade reporting, attendance, and course request information. In industry, they are used for surveys, personnel testing, inventory control, and medical history information.

Key features of the menu-driven system include user-defined scan forms; user-defined output records automatically interpreted; on-line help; individual field types of identification, sequence, or response; and any of seven grid types for each field.

The PDP-11 version is available for the RSTS/E operating system.

A version of this product is available for VAX computers.

**Price:** \$595 - \$1995

**Contact:** Carli Burke  
(818) 353-7974  
DATA BLOCKS  
10003 Wornom Avenue  
Shadow Hills, CA 91040

## **DECCOD2**

**PRO Operating System:** RT-11

**Keywords:** • File management • Programming tools

This program decodes DISASSEMBLY.SAV and .LDA files into their equivalent MACRO-11 assembly code, complete with self-generated labels, absolute location, symbol table, cross-reference table, octal, ASCII, and Radix-50 equivalents. The output can be assembled by the MACRO-11 assembler and linked to recreate the original file by the use of switches. The output code can be made to reflect the instruction set of one machine configuration only instead of all possible instructions. DECUS number PRO-109.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**DECdx/RSX****PDP-11 Operating System:** RSX**Keywords:** • File transfer • Text management  
• Word processing

This layered software resides on RSX-11M and RSX-11M-PLUS host systems. DECdx enables WPS-8-based systems, both stand alone and shared resource, and the host to be linked for better system utilization, document exchange, and information and data sharing.

Users can use DECdx to transfer documents between the WPS-8 system and the RSX host mainframe over a serial-line interface. The WPS word processing formats and print control characters are retained. During a DECdx session, the WPS-8 system emulates a terminal on the host system.

Communication between the systems uses the DIGITAL Standard Document Exchange (DX) error-detecting and correcting protocol and file format.

Refer to SPD #13.39.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$2350**Contact:** Consult your local DIGITAL sales office (see Introduction).**DECODE3 — RT-11 SAV/LDA Files Disassembler****PDP-11 Operating System:** RT-11**Keywords:** • File management • Programming tools

Memory required: 3.5K words.

DECODE3 decodes (disassembles) .SAV and .LDA files into their equivalent MACRO-11 assembly code, complete with self-generated labels, absolute location, symbol table, cross-reference table, octal, ASCII, and Radix-50 equivalents. DECODE3 is a superset, modified, and improved version of the DECODE program.

The output can be assembled by the MACRO-11 assembler and linked to recreate the original file. The use of switches can make the output code reflect the instruction set of one of several machine configurations. DECUS number 11-342.

Restrictions: Additional features do not apply to .LDA files.

Note: DECODE3 includes all features of Version 2.0 and provides additional control over both data and instruction decode. The program improves processing of overlaid files and embedded data within code.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**DECODE4: RT-11 SAV Files Disassembler****PDP-11 Operating System:** RT-11**Keywords:** • File management • Programming tools

Memory required: 5.4KW.

DECODE 4.0, a modified version of DECODE 3.0 (DECUS No. 11-342), allows easier decoding of relatively large .SAV files on a machine with relatively small diskette capacity, such as Heath HT-11 hardware running either the Heath-supplied software or RT-11 Version 3. The program assembles with the Heath HT-11 system and utilities and uses a separate file to supply repetitive command line information. Listing controls allow decoder output to be printed or stored on files in parts. Decoding with the Heath HT-11 system is easier or possible at addresses above or below 1000(octal). DECUS number 11-709.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DFWFT (Discrete Fast Walsh-Fourier Transform) Subroutine**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mathematics • Real time • Scientific

This subroutine for the PDP-11/20 performs a forward or inverse Discrete Fast Walsh-Fourier Transform of  $N$  real data elements, where  $N$  is a power of 2 in the range  $8 < N < 16384$ . A sample size of 1024 elements is transformed in 357 msec (0.357 sec); 560 words of core storage are required for the control section (subroutine), and  $N$  words for the data section. The source module is written for the DOS-11 environment. Minor changes are required for a paper tape system. DFWFT may be invoked as a FORTRAN subroutine. DECUS number 11-78.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **EPR (Electron Paramagnetic Resonance) Package**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data collection • Instrumentation • Scientific  
• Signal processing

Memory required: 20K.

The EPR programs and subroutines are used for data acquisition and data reduction of EPR spectra obtained using the Varian EPR spectrometer, which is interfaced to a PDP-11/03 computer. The interface is based on a Data Translation DT 1761 interface board.

The EPR package includes programs and subroutines for digitizing EPR spectra for signal averaging, for storing spectra on diskettes, for viewing spectra on a scope, and for plotting spectra on a recorder (several plotting programs are available). The package offers programs for data reduction such as smoothing, spectral integration, addition of constants or multiplication by constants, scaling of spectra for plotting, shifting of spectra, finding maxima and minima in spectra or specified regions of spectra, and listing of the data array on the teletype for possible transfer to a large computer.



Designed for use with the PDP-11/03 microcomputer, the EPR package offers the experimentalist a method of setting up a computer interface system for the EPR spectrometer at a very low cost.

Some of the programs supplied are SCAN, TRACE, VIEW, PLOT, SLOPLT, STAKPT, COMBIN, BASLIN, INTEG, SMOOTH, CONST, EXAMIN, and GLUE. DECUS number 11-387.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **European MINC Package #3 — Data Acquisition**

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Biology • Data collection

The following is a brief description of the programs:

- MINC LOG — Software package for general data logging
- ADFAST — Programmable fast A/D sampling routine
- DATAIN/PLOTDA — Analog biological data handling and selectable plotting HP-9872B plotter
- PLANT PHYSIOLOGY — Voltage clamp and data acquisition program

DECUS number 11-574.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Fast Fourier Transform and Two Applications**

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Data collection • Mapping  
• Signal processing

Memory required: FFT, 8K; WF 3D, 28K; CSPEC, 16K.

FFT is a Radix-2 complex Fast Fourier Transform written in MACRO-11 assembly language for an LSI-11 computer with EIS and the RT-11 operating system.

WF 3D can be used to obtain Wiener filtered or unfiltered averages of analog signals. The user sets on line the number of sweeps, the number of points for each sweep, and the time between points and chooses the filter. Both recursive and nonrecursive versions of the Wiener filter, as well as unfiltered signal averaging, are available.

CSPEC samples analog inputs, computes and stores on diskette the power spectrum of each sweep, and plots the compressed spectral array. The user selects on line the number of sweeps, the number of points for each sweep, the time between points, artifact rejection level, horizontal and vertical offsets, and smoothing factor. DECUS number 11-368.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FORTRAN-Callable Subroutines Package for Fast Continuous A/D on the MINC**

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A

Memory required: 280(decimal) words.

The assembly routines ADCONT, WAITFD, and STOPIT constitute a FORTRAN-callable package capable of providing dedicated, continuous (buffer management with transfer to peripheral storage) analog-to-digital acquisition, at rates two to eight times faster than the maximum rates provided by REAL-11 routines, in a fraction of the memory space. The interface is also less complex and was modeled after MINC BASIC. Experienced users should be able to modify the sources for use with K and V series logic running under RT-11. A programmable clock and A/D modules are required. DECUS number 11-687.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FORTRAN/RT-11 Laboratory Extension**

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Data collection • Debugging  
• Instrumentation

Memory required: 32K bytes.

This library of laboratory subroutines supports the LPS11 Laboratory Peripheral System, the AR11 Analog Real-Time Subsystem, and the AD11-K, KW11-K, AA11-K, AM11-K, and DR11-K laboratory I/O modules and a FORTRAN debugger. The subroutines enable the user to acquire data in all the modes provided by the LPS11 and AR11 hardware and to operate CRT display through the digital-to-analog converters provided in those units. A completion routine capability allows the user to write subroutines that are activated asynchronously on completion of a process, such as the filling of a data buffer. DR11-K support allows up to eight of those interfaces to be operated simultaneously. The AD11-K (with optional AM11-K), AA11-K, and KW11-K support are compatible with the LPS11 support (only one clock is supported). Library parameters can be easily specified to conform to the user's hardware configuration.

The FORTRAN debugger enables the users at the console terminal to debug the programs at the FORTRAN level.

**NOTE:** The Extended Memory (XM) feature cannot be used with the RT-11 Foreground/Background monitor.

Refer to SPD #12.29.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$350

**Contact:** Consult your local DIGITAL sales office (see Introduction).



**GENLOG: Shareable Data Logging Package****PDP-11 Operating System:** RT-11**Keywords:** • A/D, D/A • Data collection • Security

Memory required: Approximately 48KB.

This package allows a MINC-11 or other PDP-11-based system with analog-to-digital conversion capability to be used as a shared data logger under RT-11FB. Up to 20 experiments can share the system, and data logging can be individually controlled for each one. Data is stored on diskette in individual files for each experiment, and sequential data-taking sessions for the same experiment are stored in files with different names. Automatic data scaling is available, and use of preamplifiers or multiplexers (as MINC modules) is supported.

Experiments can be assigned passwords to prevent unauthorized data modification. Data can be displayed on the console as it is taken. Variable parameters for each experiment include data-taking interval, password, total time to take data (if undefined, data taking must be stopped by the operator), A/D channel assignments, preamplifier settings, and scale factors. The background can be freed for other uses while data is being logged. DECUS number 11-423.

Note: GENLOG includes a facility to suppress storage of nonvarying data.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**ITEX/Q****PDP-11 Operating System:** RSX, RT-11**Keywords:** • Graphics • Optics

Memory required: 64K.

This stand-alone package of board-level and data-manipulation routines for the Q-bus version of our IP-512 family of image-processing modules can be used to control groups of IP-512 modules. Those modules include the FB-512 Frame Buffer, AP-512 Analog Processor, RGB-512 Color Video Digitizer, ALU-512 Arithmetic Image Processor, and HF-512 Histogram/Feature Extraction module.

ITEX/Q speeds program development by eliminating the board-level interface development and debug cycles. Complete look-up tables or individual table entries can be accessed and modified. Continuous- and single-image acquisition operations are controlled, as well as pan, scroll, and zoom of images stored in frame memory.

ITEX/Q includes routines for initialization and register access, look-up table control, ALU-512 control, active video window control, image acquisition and video control, delay and synchronization, pixel and clear operations, cursor and marker manipulation, data moving, image processing, graphics, test and calibration, and data base access.

In addition, a configurable data base file allows users to define such system-specific parameters as hardware base addresses, the size and shape of frame memory, and initialization constants. That eliminates the need to edit or recompile program files if the hardware configuration changes.

ITEX/Q, written in MACRO-11, is compatible with DIGITAL FORTRAN and Whitesmiths' C calling conventions. Each routine operates without system calls, and each module works independently of other ITEX/Q modules.

ITEX/Q can be easily transferred to read-only memory (ROM), creating a less costly, tamper-proof system. Source code and a programmer's manual are provided.

**Price:** \$1995 - \$4995

**Contact:** Ross Chapman  
(617) 938-8444

IMAGING TECHNOLOGY INC.

600 West Cummings Park  
Woburn, MA 01801

## LazerCalc

**PDP-11 Operating System:** RSX, RT-11

**PRO Operating System:** RT-11, TSX-11

**Keywords:** • Calculation aids • Mathematics • Scientific

This software can duplicate the functions of several types of handheld calculators. Using a video terminal (VT100 or compatible), LazerCalc constructs a calculator image on the screen and accepts input by using the numeric keypad.

The calculator can be operated in general-purpose mode, which provides typical business and financial functions, as well as metric conversion; in scientific mode, which supports logarithmic transcendental and trigonometric functions; and in computer mode, complete with hexadecimal and octal arithmetic, number-system conversion, and logical functions. When a new operating mode is selected, the "key-caps" on the calculator are "replaced" with new ones appropriate for the type of calculator being simulated.

In addition to the regular calculator functions, numerous special features have been added: a "tape" mode, which allows calculator actions to be written to or read from disk files; an EDT/KED-style command processor; and an initialization command file (CALC.INI), which allows you to specify the configuration functions from a command file. The user can also run the calculator in "unattended" mode, allowing it to be called from another program or to "recalculate" the results from a previous calculating session.

In both the scientific and general-purpose modes, all calculations are performed using 64-bit floating-point arithmetic. That gives a 16-decimal digit accuracy within an approximate exponential range from



E - 39 to E + 39. In computer mode, user-selectable 10- or 32-bit integer arithmetic is used.

A version of this product is available for VAX computers.

**Price:** \$195 - \$250

**Contact:** Ned W. Rhodes  
(301) 340-2773

SOFTWARE SYSTEMS GROUP  
1684 East Gude Drive  
Rockville, MD 20850

### **MACS-11 (Media Access and Conversion System for PDP-11)**

**PDP-11 Operating System:** RT-11

**Keywords:** • File transfer • Telecommunications • Translators  
• Word processing

The MAC-11 series, written in MACRO-11, reads from and writes to DIGITAL, IBM PC, Wang, and other microcomputer and dedicated word processor formats. The programs provide direct translations between the two formats and use either diskette or tape.

**Price:** \$750 - \$25,000

**Contact:** Chris Muller  
(212) 344-0474

MULLER-MUGNO CORP.  
42 Broadway  
New York, NY 10004

### **MINC-11 Data Acquisition Package for RSX-11M**

**PDP-11 Operating System:** RSX

**Keywords:** • A/D, D/A • Data collection • Software utilities

Memory required: 54KB.

These three FORTRAN programs and related files implement a flexible data acquisition algorithm for RSX-11M-based systems. The analog-to-digital converter handling is set up to use MINC-series modules (MNCAD.MNCAM), but the code dealing with actual analog-to-digital conversion is collected in one subroutine to facilitate modifications to other hardware. During the data acquisition process, the user is provided with a live terminal keyboard, which can be used to modify any of the following data collection parameters. Accessible parameters are the disk storage file name, assigned A-D channel numbers, preamplifier settings (MNCAG), collection rate, total time to collect, scale factors, and storage suppression threshold. The user can also start and stop data collection sequences from the terminal and force the collection of one or more individual data points at any time.

While data is being collected, the user may also "disconnect" the terminal from the data collection process, allowing the terminal to be used for other purposes. Data may be written out numerically on the user's terminal as the data is taken or returned by way of system messages to

a customized program for graphics display. An example of such a customized graphics program is included for VT105 and VT125 terminals. Up to three user terminals may be simultaneously "connected" to the data acquisition process; each may display the data numerically, graphically, or both; and each may be used to modify the data collection process. A "profile" of default parameters is kept for each user, so that repetitive information does not need to be entered each time the programs are run. DECUS number 11-590.

Note: Bugs related to multiterminal use have been fixed.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Mixed-Radix Fourier Transform Program**

**PDP-11 Operating System:** Independent

**Keywords:** • Mathematics • Programming tools

The mixed-radix Fourier transform code computes the discrete Fourier transform of a set of real or complex data points, using FORTRAN IV-PLUS. The fast Fourier transform programs usually encountered are Radix-2 transforms, where the number of data points is restricted to a power of 2. With the mixed-radix code, the number of data points that can be transformed is much more flexible. In those routines, the number can be a product of a power of 2, 3, 4, or 5.

The transform has two stages: first, the data is reordered; second, the arithmetic operations of the transform are performed. For speed and generality, the first stage requires an additional workspace array equal in size to the input data array. Another stage is required if the input data is real. If the data is complex, the real and imaginary parts are stored as FORTRAN stores them. The code is not optimized. On a PDP-11/34 with floating-point processor, a 1000-point transform takes 1.52 seconds. DECUS number 11-559.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MOLDYN (A Molecular Dynamics Package)**

**PDP-11 Operating System:** RSX

**Keywords:** • Energy • Mathematics • Scientific

Memory required: Up to 32KW.

MOLDYN calculates the classical Newtonian trajectory for a system of interacting particles whose initial configuration and momenta are specified by the user. The forces acting between the particles are determined by potential energy information separately initialized (in terms of a nonredundant set of internal coordinates of stretches and bends, allowing interactions among them). The program allows the user to follow the detailed trajectory or to ignore intermediate states of the system.



The program can also be used to obtain a (locally) minimum energy configuration of the input system. The program can repeat trajectories with the same initial configuration but for random orientation and impact parameter of a monatomic collider. The program can also repeatedly subject the central molecule to collisions with a single atom from random directions and with random impact parameters.

Provided along with MOLDYN is NORMOD, which uses the same files as MOLDYN and solves for the normal modes of the system in internal coordinates. NORMOD can project internal coordinate information saved by MOLDYN onto the normal modes, using the matrix of eigenvectors transforming between internal and normal coordinates. Other, smaller programs include ANALYZ, CONTUR, and MOVIE.

(These programs require, respectively, a user-provided differential equation solver and a user-provided eigen-problem solver. The code as provided expects to use the IMSL routine DVERK and the EISPACK routines RG.)

Note: Two bugs fixed are rotational energy and scale factor in normal mode analysis. The program has been amplified to save vibrational and rotational energy information during a trajectory; the documentation has been expanded accordingly.

Documentation is on magnetic media. DECUS number VAX-41 and DECUS number 11-570.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **MTLIB (Magnetic Tape Driver Library and Utilities)**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Device drivers/handlers • Software utilities

MTLIB consists of routines for a general-purpose magnetic tape driver and utility, application, and demonstration programs. The library routines permit an application program to assume complete control of the magnetic tape unit and to make conversions between ASCII and EBCDIC. Thus, an application program can read or write a tape in any arbitrary format. MTLIB also includes the utility program MTAPE, which provides pseudokeyboard or monitor commands for initiating certain magnetic tape operations. Also included are the application programs TAPDUP, TAPLOG, and TAPRD.

The routines and program in MTLIB are usable under both RT-11 and TSX-PLUS with the MM (TJU16), MS (TS11), MT (TM11), or MU (TMSCP) tape handlers. The library includes the tape driver subroutines, the ASCII-EBCDIC conversion routines, and language interface routines for calling the tape driver and the conversion routines from programs written in DECUS C, COBOL-PLUS, DBL, FLECS, FORTRAN (F66 and F77), MACRO-11, Pascal, and RATFOR.

The tape driver routines accept up to five arguments that define the tape drive name and number, the function or operation code, the number of bytes or characters to be transferred or records to be skipped, the name of the buffer containing or to receive the information to be transferred, and the number of bytes read (or 0 if a tape mark is encountered). The function code specifies any one of eight operations: off line and rewind, read, write, write a tape mark, space forward, space reverse, write with an ERG, and rewind.

The operations performed by the MTAPE program are off line and rewind, rewind, skip RT-11 files, skip tape marks, and skip records. The skip operations can be either forward or reverse. TAPDUP makes an image copy of a magnetic tape onto another magnetic tape. TAPLOG logs the structure of a magnetic tape. TAPRD reads records from a magnetic tape into a file on the default device.

The binary kit contains the implemented library file; executable copies of the MTAPE, TAPDUP, TAPLOG, and TAPRD programs; and the user's guide in machine-readable form. The kit also includes sources for the TAPDUP, TAPLOG, TAPRD, and tape driver demonstration programs in each of the supported languages.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$250

**Contact:** Nick Bourgeois  
(505) 298-2346

NAB SOFTWARE SERVICES, INC.  
P.O. Box 20009  
Albuquerque, NM 87154

## Nicolet 1090 Digital Oscilloscope Handler and Interface to PDP-11

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Device drivers/handlers  
• Instrumentation • Systems communications

This program uses a DR11-C and a small user interface to read data from a Nicolet 1090 sampling digital oscilloscope. The program was written to be called using RT-11 FORTRAN; however, the included documentation is sufficient to allow modifications to implement the program in other ways. This program allows the user to use the Nicolet 1090 as a high-speed A/D converter and data buffer in a measurement system. DECUS number 11-319.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## OBJCON (General-Purpose Object Module Conversion Utility)

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Microprocessor development • Software utilities  
• Translators



This general-purpose conversion utility transforms an object (or load) module into several standard formats. The source and target object module formats may be one of OASYS's unique formats or standard ones used by other software suppliers.

Object modules need be converted only once. For example, a Whitesmiths Object Module "string" function would normally be extracted from its library and converted once through OBJCON. From then on, the function is compatible with the OASYS Linker.

OBJCON also converts standard OASYS Linker output (S-record images) to UNIX\*-equivalent "A.OUT" format.

The following summarizes possible input and output object modules combinations: input object modules, such as Whitesmiths relocatable, OASYS relocatable, Motorola relocatable, and A.OUT; output object modules, such as S-record, A.OUT, Motorola relocatable, OASYS relocatable, and memory image.

OBJCON, written in C, is available in binary or source code for clients wishing to use the built-in OBJCON reader, writer, and conversion routines to extend OBJCON to support a new input or output format.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht

(617) 491-4180

OASYS

60 Aberdeen Avenue

Cambridge, MA 02138

## **ORC: Object-to-MACRO Conversion**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Debugging • Language enhancers  
• Software utilities • Translators

Memory required: 8K words.

The ORC utility converts PDP-11 object code to MACRO-11. ORC checks code produced by compilers and provides on-line debugging of code produced by a compiler that does not give an assembly listing (for example, CORAL).

For ORC to produce sensible output, the object code should have data and instructions in separate program sections. The object code produced by the CORAL and F4P compilers satisfies that requirement. The threaded code produced by the FORTRAN compiler (FOR) is not suitable for conversion to MACRO-11.

The MACRO-11 code produced by ORC can be assembled in the usual way to produce an assembly listing. DECUS number 11-413.

Note: On-core tables are limited to a maximum of 26 program sections for each object module. Limits on label and symbol tables can be increased at task build time, making the task larger.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **PDP-8 Cross-Assembler and Utilities for RSX-11D**

**PDP-11 Operating System:** RSX

**Keywords:** • Assemblers • Device drivers/handlers  
• Pre- and postprocessors • Software utilities

The PDP-8 Cross-Assembler for RSX-11D requires paper tape punch. PL8RSX is a PDP-8 cross-assembler based on PAL8.11 (DECUS No. 11-201), modified to run under RSX-11D. Input to the assembler is from a PAL8 source file on disk. Binary output is to the paper tape punch, and the listing goes to the line printer. The assembler (PAL8.11) has been modified to run as a subroutine called by a FORTRAN main program, to call FORTRAN subroutines to do I/O, to generate literals and off-page indirect references, and to handle TEXT and TEXTZ pseudoops.

DX, a PDP-8 format DECtape handler, is a read-only RSX-11D device driver for PDP-8 format DECtapes to facilitate transfer of programs and data from a PDP-8 to a PDP-11. Up to four blocks (516 PDP-8 words, which can be changed by conditional assembly) can be read by one request. Data is returned one 12-bit PDP-8 word in one 16-bit PDP-11 word, right justified. The driver has been used on a PDP-11/45 under RSX-11D V6.8. DECUS number 11-354.

Note: Some modifications are required to use the program on a PDP-11/70 or under IAS.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **PLANS: A Program to Plot Hard Copy on the Versatec Printer**

**PDP-11 Operating System:** RSX

**Keywords:** • Graphics • Mapping • Printing

Memory required: 32KB.

This program produces a hard copy of design drawings on the Versatec Printer. PLANS uses user-supplied data files, then converts the easily organized data files into complicated graphics output, using Versatec's Versaplot Graphics Library. Each data file plot is used as a transparent overlay. The final plot consists of those plot overlays chosen by the user.

Since dialog is enabled between the user and Versaplot, the scale of the whole drawing and 27 other variables can be controlled. Sources to Versatec's Versaplot Library are not included. Correction to the translation and rotation routine, change to the fill routine, and addition of the ability to save processed files have been added. DECUS number 11-719.



**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **POLFIT (A General Polynomial Fitting Program)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Mathematics

POLFIT is an interactive program fitting the function  $f(x)$  to data input as X,Y pairs, where  $f(x)$  has the function form:

$$f(x) = a1*x**p1 + a2*x**p2 + ...;$$

The powers  $p$  are arbitrary real numbers specified by the user; the returned coefficients  $a$  provide the best least-squares fit.

Data is input under user-specified format(s) from one or two files. The powers and the number of coefficients are specified interactively, and the program returns the fitted coefficients and the goodness-of-fit parameter  $\rho**2$ .

The program includes a line printer/terminal plotting option allowing display of the data and the fitted curve.

Documentation is on magnetic media. DECUS number 11-554.

A version of this product is available for VAX computers.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **Professional Real-Time Interface Library**

**PDP-11 Operating System:** RSX

**Keywords:** • Device drivers/handlers • Programming tools  
• Software utilities

This library provides subroutines to control real-time data transfers to and from external devices using the PC3xx-AA Real-Time Interface and the ADMPC-xx Analog Data Module (ADM) options for PC300-series personal computers. The library includes routines for serial asynchronous I/O, IEEE-488 operation, parallel digital I/O on either the RTT's 24-line parallel port or the ADM's 8-bit input/8-bit output ports, analog inputs to memory and to disk, and utility operation, including unit conversions and bit checking, setting, and clearing. Professional Real-Time Interface Library supports hardware initialization, establishment of handshaking or flow control parameters, and data transfers to, from, or between devices interfaced to the PC3xx-AA and/or ADMPC-xx.

I/O operations can be performed synchronously or asynchronously with the calling tasks. Calls can be made concurrently from multiple tasks. The user can also create a shared resident library of subroutines callable from Professional Tool Kit BASIC-PLUS-2, Professional Tool Kit FORTRAN-77, and Profession Host Tool Kit Pascal. After development using the Professional Host Tool Kit, the programmer can run the applications on an appropriately configured PC300 target system.

Refer to SPD #30.37.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for VAX computers.

**Price:** \$300

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **PRO/Laboratory Subroutine Package**

**PRO Operating System:** P/OS, RT-11

**Keywords:** • Data base management • Health care • Statistics

This set of FORTRAN-callable subroutines performs a variety of standard analytical tasks commonly encountered in the laboratory. All of the subroutines are dedicated to processing data that has been acquired by other laboratory data acquisition software.

The following data-manipulation subroutines are provided: peak processing, envelope processing, interval histogramming with reference points, fast Fourier transform, phase angle and amplitude spectrum, power spectrum, and correlation function.

P/OS hard disk, Pro/Tool Kit, and PRO/Tool Kit FORTRAN-77 are prerequisite. RT-11 on the Professional and FORTRAN IV/RT-11 on the Professional are also required.

Refer to SPD #40.49.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$300

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **PROM Programming Software**

**PDP-11 Operating System:** IAS, RSX, RT-11

**Keywords:** • Development tools • Microprocessor development  
• Software utilities • Translators

PROM enables engineers or production personnel to program PROMs or EPROMs, using any PROM programmer that supports Intel HEX format. The PROM programming software, called HOP (Hex Output Program), accepts a variety of DIGITAL file types for input and converts them to a format that can be directly down-line loaded to a PROM programmer over a standard serial line. MicroPower/Pascal .MIM files are supported by HOP.

A version of this product is available for VAX computers.

**Price:** \$450 - \$650

**Contact:** Phil Denzer

(413) 549-6994

PROCESS SOFTWARE CORP.

35 Montague Road, P.O. Box 746

Amherst, MA 01004



**RSX-11M Datalogging System for Acurex Netpac****PDP-11 Operating System:** RSX**Keywords:** • A/D, D/A • Data collection • Software utilities

Memory required: 55KB.

This submission interfaces with the Acurex Netpack remote data collection system. The program is an expansion of the MINC-11 Data Acquisition Package for RSX-11, DECUS number 11-590. The principles of operation and commands are identical with DECUS number 11-590. The only differences involve additional data collection parameters, which are engineering units, module numbers, temperature units, and reset rate (the rate at which recalibration and block temperature readings are performed). The minimum change parameter has been expanded into an array, one entry for each channel, since the raw voltages observed on each channel are no longer available to the computer, and the scaled values are possibly in different systems of units. Some of the code in this submission may be useful for users of the 11-590 program, since the programs have been generalized to handle an arbitrary number of channels. Multiple data collection tasks cannot share the same Netpac I/O port. DECUS number 11-740.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**RSXPROM****PDP-11 Operating System:** RSX**Keywords:** • Device drivers/handlers • Down-line loading  
• File transfer

Memory required: 41K.

RSXPROM allows down-loading Intel HEX format files from an RSX-11M system to a DATA I/O System 19 EPROM programmer (with computer remote control) by way of a serial line. RSXPROM reads the specified HEX file from disk, transmits a chunk of the file (representing 4K bytes of object code) starting at the specified address, and sets up the block limits in the DATA I/O for programming the specified type of EPROM. RSXPROM has been used successfully with the DATA I/O single-PROM modules for the 2708 and the 2716/2732 and with the Gang Programming module. DECUS number 11-488.

**Restrictions:** The file to be transmitted must fit in memory buffer. The program works only with 2708, 2716/2516, and 2732/2532-type EPROMS.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**RT-11 File Conversion Program for Absolute Loader Paper Tapes with SA  $\leq 1000$** **PDP-11 Operating System:** RT-11**Keywords:** • Down-line loading • Software utilities

Memory required: 16K.

This program loads absolute binary-formatted paper tapes of programs occupying and having starting addresses in low core ( $\leq 1000$ ) and converts them to .SAV modules, which may be loaded and started from the RT-11 monitor. DECUS number 11-310.

Restrictions: This program is for loading tapes that do not require use of switch register in loading. The program is good for formatting or for diagnostic tapes.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RT-11 System Utilities MAPP, FIND, and GRAB**

**PDP-11 Operating System:** RT-11

**Keywords:** • Calculation aids • Disk utilities  
• Software utilities

Memory required: 8K.

MAPP facilitates the RMON address calculation not only when the operating system is being modified but also during routine examination of the monitor data base. The program calculates, from the standard ASCII system load map (RKMNFB.MAP), the absolute memory locations of specified global labels within the resident RMON module of the monitor. Extra labels can be easily added. The sources include a 6-number ASCII-to-octal conversion print routine.

FIND searches a specified device, between required block limits, for an ASCII or RAD50 string input from the terminal. A 2-block file, within which the string was found, is written to DK:0.P, and the block number is printed. Sources include an octal-to-decimal number print routine.

GRAB reclaims areas of a device suffering a directory corruption. GRAB reads a region of a specified device, between required block limits, and writes that region to a file DK:0.P. DECUS number 11-410.

Note: For the FIND program, three characters (or a multiple) must be entered for the RAD50 string.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RT-11/FORTRAN Support for Data Acquisition and Display on a VT105**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data collection • Graphics • Mapping  
• Presentation aids

Memory required: 30KW.

This package consists of two RT-11/FORTRAN programs for acquiring analog data and then interactively displaying the data on a VT105. The package also contains a demonstration data file that you can use to become familiar with the package. DECUS number 11-451.



**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **SIN-DAS (Single-User Data Acquisition System)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • A/D, D/A • Data collection • Process control  
• Real time

Memory required: 32K.

SIN-DAS is part of an efficient turnkey, distributed, data acquisition and control system for monitoring, alarming, logging, and proportionally controlling industrial processes. Our hardware and DIGITAL's software have been modularly developed to customize the system to meet user needs without extensive delay. Written in MACRO and run on RT-11, this program is unsurpassed in speed and response.

MUL-DAS (Multiple-User Data Acquisition System) is also available on RSX-11M.

**Price:** \$45,000 – \$150,000

**Contact:** Lester A. Ortiz

(914) 338-0515

FX SYSTEMS CORP.

77 Cornell Street, P.O. Box 1818

Kingston, NY 12401

### **Single-, Double-, Triple-Precision ASCII to Decimal/Decimal to ASCII**

**PDP-11 Operating System:** None required, RT-11

**Keywords:** • Data entry • Programming tools • Real time

The RX01 distribution diskette contains the object code for six programs designed as reentrant subroutines for numeric input and output in mainline programs. Those subroutines fall into two categories: ASCII-to-numeric conversion and numeric-to-ASCII conversion. Each category comprises three programs denoting the available precision: single, double, or triple.

The single- and double-precision subroutines, stripped-down versions of the triple-precision subroutine, were created to reduce program size, execution time, and register usage when multiple precision is not required. The subroutines are identical in all other regards.

The subroutines for ASCII-to-numeric conversion get a value directly from the terminal. That value may be positive or negative, signed or unsigned, and integer or decimal. A code register is used to pass all relevant parameters, including number of input digits (1 to 15, depending on precision), number of decimal places (0, integer, to 6), sign/unsigned flag (value is signed or magnitude from 0), and alternate delimiter (delimiter character of input string, if other than line feed).

The subroutines assemble the value in a register or registers until the delimiter is entered, input is aborted, or an error occurs. The subroutines signify an error by returning with the C bit set and the errant character, if any, in a register. Provisions exist for aborting the input (ESCAPE) and signaling that only the delimiter was entered (V bit set).

The subroutines for numeric-to-ASCII conversion place the ASCII string of a numeric value, including sign and decimal point (if appropriate), in a user-supplied buffer. The subroutines may be called directly by placing the numeric value in a register or registers or relatively by placing the memory address of the numeric value in a register. A code register is used to pass all relevant parameters, including number of output digits (1 to 15, depending on precision), number of decimal places (0, integer, to 6), sign/unsign flag (value is signed or magnitude from 0), and pad character (character to use for leading zero(s)).

All six programs were written in reentrant PDP-11 assembly language code under RT-11 Version 3. They do not require any special hardware or chips for extended instructions. The ASCII-to-decimal subroutines require the RT-11 operating system for the .TTYIN system macro call. Otherwise, all six programs can be used with any operating system or stand-alone program that can call them.

**Price:** \$100

**Contact:** Jeffrey Katz

(617) 994-5370

WHALING CITY SOFTWARE

P.O. Box D-22

New Bedford, MA 02742

### **Single-Precision Floating-Point Program for LSI-11 Without EIS and FIS Options**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mathematics

These routines for basic arithmetic operations, input/output, square root, and integer-to-floating-point conversion are called by means of TRAP instruction through trap handler and cannot be used like common subroutines. Thus, the Floating-Point Program cannot be interfaced with assembly programs using TRAP instruction. After completion of the routine, the condition codes are set, depending on the result. The contents of any of the six general-purpose registers (RO-RG) can be used as the address of the operand. No extended arithmetic option (EIS and FIS) is required. DECUS number 11-621.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**TAPER****PDP-11 Operating System:** RT-11**Keywords:** • Disk utilities • File transfer

This general-purpose magnetic tape reader takes character data in an unknown format and, through interaction with the user, writes the data in DIGITAL format to any write-enabled disk. TAPER can be used to read "foreign" tapes.

TAPER can read EBCDIC or ASCII character files, with or without header records, provided the logical record length is fixed. As implemented, TAPER works on 9-track 800 bpi NRZI tapes on drive 0, with a maximum blocking factor of 10,200 characters. The user may change those latter characteristics. DECUS number 11-463.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**UNITAP/UNIWRI****PDP-11 Operating System:** RSTS**Keywords:** • Assemblers • Compilers • Programming tools

These two programs read and write, respectively, "foreign" magtapes on a RSTS/E system. Both programs are preset to default to 800 bpi, IBM SL tapes, fixed records, and EBCDIC character code. The following characteristics may be selected by the user if the default is inappropriate: 800/1600 bpi, EBCDIC/ASCII/BCD character codes, with or without tape labels, fixed or variable blocks, or LRECL and block size.

Both programs support wildcarding. UNITAP also supports the following features: dump only the first  $N$  records on the tape; dump a random  $N\%$  sample of the records on the tape, invoke a user-supplied function to modify/select/reject each record, and print a directory of the tape (with no output to disk).

Both programs also compile and run under BASIC-PLUS-2 for faster execution and/or large block sizes. DECUS number 11-332.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**Utility Routines ASCIB, JLBITS, and CSISR****PDP-11 Operating System:** RSX**Keywords:** • Documentation tools • Language enhancers  
• Software utilities • Source code control

ASCIB allows FORTRAN programs to execute high-speed conversions in either direction between 16-bit integers and decimal ASCII character strings of specifiable length. The program makes no error checks.

JLBITS allows FORTRAN programs to execute 8-bit and 32-bit logical operations: AND, OR, exclusive OR, and complement. This utility routine also provides 16-bit rotate.

CSISR allows FORTRAN programs to decode MCR command lines, returning file specifications in ASCII strings, and to switch codes in

variables similar to those returned by RT-11's ICSI. Functions INCSI and IOUTSI extract file specs and switches from the right and left sides of a command line's equal sign. Function IGTCML reads an MCR command line. DECUS number 11-273.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **VIOS (Video Input/Output and Processing Software)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Application development • Graphics • Real time  
• Signal processing

This software package is designed to add powerful real-time video input, output, and processing capabilities to DIGITAL computers using the Datacube QVG family of video hardware. With VIOS, computerized video applications can be developed that will perform at real-time video rates. Applications range from industrial measurement and control to machine vision, robotics, and medical imaging. Some of the input, output, and processing operations include spatial filtering; temporal filtering; high- and low-pass filtering; edge enhancement; image preprocessing; nonlinear and discontinuous transforms; image integration, summation, and so forth; and image multiplexing.

Specialized software functions that are not available in the standard VIOS software package can be added on request.

A version of this product is available for VAX computers.

**Price:** \$2500 - \$2900

**Contact:** Phil Denzer

(413) 549-6994

PROCESS SOFTWARE CORP.

35 Montague Road, P.O. Box 746

Amherst, MA 01004

### **WRDBX Subroutine for Check Writing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Payroll • Security

This routine accepts a decimal field and converts it into an English-language dollars-and-cents string. For example, the routine converts "1178565" to "eleven thousand seven hundred eighty five and 65/100 dollars."

WRDBX can be used for check protection. Included with the routine is a sample program to demonstrate how to pass the parameters. DECUS number 11-628.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



## Development Tools



Jeff Albertson/Stock, Boston

## **A-to-Z Integration Kit**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • A-to-Z • Data dictionary • Menu handlers  
• Office systems

A-to-Z Integration Kit allows the creation or migration of software packages targeted for the A-to-Z Integrated System. The A-to-Z Integration Kit provides the necessary software routines to create and maintain A-to-Z Integrated System data dictionaries. The A-to-Z Integration Kit allows the user to create and modify menus for user-written applications with all the functionality of the menus used in other A-to-Z components.

A-to-Z Integration System is prerequisite.

Refer to SPD #18.20.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$400

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **ABC**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Application development • Data dictionary  
• Programming tools

This complete application program-generating system can be used by both nonprogrammers and programmers to quickly and easily create ready-to-use business-oriented application programs and the source code for them in a variety of DIGITAL-based operating systems and language compilers. The complete ABC system consists of eight key software modules, including a data file definition and seven program-generating modules. The ABC user can generate programs using either single or multiple data files. The types of application programs generated are for data entry, reports, sorting, transaction processing, graphics, menus, and file reorganization.

ABC-generated programs are readily moved from the computer for which they were created to any other computer using the same language compiler. ABC need not reside on the "recipient" computer in order for programs created on another "host" computer to work.

This interactive, multifile application program-generating system can easily be "superimposed" over any existing data file handling/access or other input/output-related method. The system's "protocol file" design concept ensures that all input/output-related functions, including data file handling/access methods, are completely independent of the program-generator modules.

A version of this product is available for VAX computers.

**Price:** \$995 - \$5500

**Contact:** Sales Department

(412) 269-1700 or (800) 245-6190



EXTENDED APPLICATIONS, INC. (EAI)  
410 Rouser Road, Airport Office Park, Building #1  
Coraopolis, PA 15108

### **ABSPAT (Absolute Binary Patch on RK Disk and DECtape)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities

Memory required: 7K/9K, depending on version.

ABSPAT is a stand-alone utility program used to read, display, and patch the contents of any block on the RK disk and DECtape. The data can be printed and entered in ASCII, RAD50, octal/decimal, word/byte, and signed/unsigned formats. The main functions of ABSPAT are to dump and patch words/blocks, chain-link files, boot disk or DECtape, and serve as a keyboard calculator. DOS-specific functions are list block as Master-/User-Directory and hook/boot CIL files. The paper tape version is direct bootable. DECUS number 11-257.

Restrictions: ABSPAT uses the 11/40 EIS Instruction Set and runs stand alone.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **ADT: A Debug Driver for RT-11 V4**

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Device drivers/handlers  
• Programming tools

Memory required: 3800KB.

ADT provides identical capabilities as DIGITAL's standard RSX-11 ODT, with a number of powerful extras. No syntax changes are performed, and the new features follow the ODT-style format.

ADT is not linked with the application program but rather is loaded in as a driver, offering several benefits relative to system access, ease of use, and so on. As a driver, ADT is in a privileged state and can easily access any memory in the system. Since DB, the distributed device mnemonic for ADT, is activated by doing a .LOOKUP, this code can be left in the application with little memory penalty, and the debugger can be selected by loading or not loading the driver.

New features are overlay breakpoints; user/kernel mode address references, including access to user-mode stack pointer; variable processor status for ODT; keyboard break; and a hold-during-list. DECUS number 11-614.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Advanced Development Tool Kit**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™

**Keywords:** • Assemblers • Debugging  
• Microprocessor development • Programming tools

This collection of programming tools is designed for use with the p-System and at least one programming language. The tool kit includes the symbolic debugger, native code generator, assembler, linker, program analysis tools, and a documentation package.

p-System™ is a trademark of Pecan Systems, Inc.

**Price:** \$179.95

**Contact:** Eli Willner

(718) 851-3100

PECAN SOFTWARE SYSTEMS, INC.

1410 39th Street

Brooklyn, NY 11218

### **Aide-De-Camp™ Software Engineering Environment**

**PDP-11 Operating System:** XENIX™

**PRO Operating System:** XENIX™

**Keywords:** • Information management • Language processors  
• Programming tools • Software utilities

This software management system provides automated version control and information management for software developers. The ADC system manages change across an entire software project. Software changes (csets) are treated as logical units that can be added to or subtracted from a named base version. Csets can include changes to any number of files and to the relationships between software entities. The ADC system operates on a data base containing source code files, documentation, historical records, and detailed information about the software under development. The system provides extensive on-line inquiry facilities about the software under development, as well as detailed source listings and off-line reports about the software. The ADC system can be used to develop software in any language. The system is inobtrusive and allows the development team to select editors and compilers.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$2500 - \$14,500

**Contact:** Richard Harter, President

(617) 369-7398

SOFTWARE MAINTENANCE AND DEVELOPMENT  
SYSTEMS, INC.

P.O. Box 555

Concord, MA 01742



**Amsterdam Compiler Kit****PDP-11 Operating System:** Independent, ULTRIX-11**Keywords:** • Compilers • Cross-assemblers • Cross-compilers

Memory required: 1 megabyte.

This kit, written in C and developed by the Vrije University of Amsterdam, is a comprehensive package of BASIC, C, and Pascal native and cross-compilers and assemblers for a wide variety of host and target machines. Cross-interpreters, for testing, are also included. The kit includes a collection of programs that simplify the task of producing portable compilers and interpreters needed for micro- and minicomputers, the sources of all programs, and comprehensive internal documentation describing how to make the modifications necessary to add a new program language or a new target machine.

A version of this product is available for VAX computers.

**Price:** \$995 – \$9995**Contact:** Joyce Bielen

(201) 985-8000

UNIPRESS SOFTWARE, INC.

2025 Lincoln Highway

Edison, NJ 08817

**APPGEN Applications Generator****PDP-11 Operating System:** XENIX™**Keywords:** • Application development • File management  
• Programming tools • Query facilities

If you develop or modify commercial software systems, APPGEN can increase your efficiency by 10 to 50 times. APPGEN is an interactive, menu-driven, fourth-generation language computer-aided applications generator environment. The system allows you to implement complex, transaction-driven, integrated commercial applications with virtually a limitless number of files, screens, menus, and reports.

APPGEN uses a nonprocedural English-language approach that does not require you to learn a new language. Because the system is developed through parameter tables, the applications work exactly the way they were designed. No program debugging is required.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$3000 – \$12,000**Contact:** Sales Department

(713) 974-2298 or (800) 231-0062

SOFTWARE EXPRESS

2925 Briarpark Boulevard, 7th Floor

Houston, TX 77042

### **ASCII Driven Menu for RSTS/E**

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Menu handlers

Memory required: 128KB.

This menu system, driven from text option files, is based on the RSX run-time system menu patch, whereby a program is executed upon entry of this modified RSX RTS (called MENU). Each option can be protected by a user specification. Any valid run command of a CCL command can be executed from the menu prompt as long as it does not match a menu option. You can specify what line number to enter on and also put data in core common before the chain to another program.

The modification to the RSX run-time system is included. DECUS number 11-734.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **ASM65 — Cross-Assembler for the 6502 Microprocessor**

**PDP-11 Operating System:** RT-11

**Keywords:** • Cross-assemblers • Microprocessor development  
• Programming tools

This debugged and slightly extended version of ASM65 is a simple cross-assembler for the 6502 microprocessor with no macro or conditional assembly capability. The cross-assembler accepts source code in a form consistent with most 6502 resident assemblers and produces both a listing with symbol table and object code in the paper tape format used by the single-board (SYM,AIM) 6502 computers. The ASCII records are designed to be directly down-loaded to the object computer on a serial interface. DECUS number 11-520.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **BASIC Business Package**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Programming tools • Software utilities

This package contains a grab bag of utilities for general use after some modifications. Included is BASIC for RSX (or compatibility-mode VMS) from the RSX SIG tapes and several utility sets with their own documentation. Two business packages and a DBMS seed package in Pascal from the CP/M user group are included. The better package includes G/L, A/P, A/R, payroll, and so on. Source files are present; binary files pertaining to CP/M have been generally excluded, although images of the CP/M floppies are provided, which can be used directly as those with THE BRIDGE.

The BASIC.MAC files are corrected by the .cmp files already and should be ready to build. The writeup with the kit describes where the submissions are.



The completeness, usability, or quality of the programs on the tape are not guaranteed. The material has not been checked or reviewed, and documentation may or may not be included. DECUS number 11-SP-54.

Restrictions: Some work will be needed to convert CBASIC and MBASIC dialects to DIGITAL BASIC.

Note: CPMUG Vol. 43 is not intact, and Vols. 43 to 45 only include most sources of the Osborn package. The Businessmaster II package is complete.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **BASIC, Pascal, PortaCalc, Kermit, and a Desk Top Calendar**

**PRO Operating System:** P/OS

**Keywords:** • Compilers • Software utilities • Spreadsheets  
• Systems communications

These diskettes contain various RSX-11 tools off old RSX-11 SIG tapes that were converted to RX50 format for the Professional 350 under P/OS Version 1.7 or later. The following tools are provided: the PortaCalc spreadsheet; the DTC, a desktop calendar facility; RSX BASIC, the Michael Reese BASIC, a full-language dialect similar to BASIC PLUS; Swedish Pascal, the latest compiler (updated for the new RSX versions); and PRO Kermit V1, a full-featured communications package with host versions in the public domain. DECUS number PRO-123.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **BNR Utilities**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Disk utilities • File management

This set of utilities is used at Bell Northern Research on the RSX-11 operating systems. The utilities produce a formatted dump of a file or device (including file header) and a summary report of disk usage, report the distribution of free blocks on a disk, format error messages, and remove bad file headers from a Files-11 volume. DECUS number 11-348.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **BOS/AutoClerk**

**PDP-11 Operating System:** BOS/5, MBOS/5

**Keywords:** • Data entry • File management  
• Programming tools • Report writer

BOS/AutoClerk is an easy-to-learn system for producing simple programs under the single-user BOS/5 and multiuser MBOS/5 operating

systems. BOS/AutoClerk's development mode is used to define screen layouts, file and record formats, and report layouts; the run-time mode performs data entry, data management, and report writing. BOS/AutoClerk operates on both RSAM and ISAM files and interfaces to BOS/AutoIndex data bases and the BOS/Writer word processor.

**Price:** \$550 - \$900

**Contact:** Ron Moore

(214) 484-2717

BOS NATIONAL, INC.

2560 Royal Lane #228

Dallas, TX 75229

## **BSO/Assembler Microprocessor Relocating Assemblers**

**PDP-11 Operating System:** IAS, Micro/RXS, RSTS, RSX, RT-11, TNIX

**Keywords:** • Assemblers • Microprocessor development  
• Programming tools

Memory required: 64KB.

This series of high-speed relocatable assemblers performs rapid generation of machine code for microprocessors. BSO/Assembler supports the Intel 8086/88/87, 80186/88/87, 8085, 8051, 8096 and 8048 series; Motorola 68000, 6800/010/020; 6800 series, 6809; Zilog Z80, Z800, Z8001, Z8002; Rockwell 6502; TI 9900-9995, 1000; RCA 1802-1805; and others. BSO/Assembler features include multiuser capability, relocatable output capability, a 2-pass assembler, symbol-passing capability, 32-bit addressing, 32-bit expression evaluation, cross-referencing, and a conditional assembly capability.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department

(617) 894-7800 or TWX: (710) 324-0760

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

## **BSO/C Compiler**

**PDP-11 Operating System:** IAS, Micro/RXS, RSX, ULTRIX-11

**Keywords:** • Compilers • Microprocessor development  
• Programming tools

Memory required: 128KB.

Designed for microprocessor software development, this product offers the microprocessor system designer a powerful optimizing compiler that permits fast program creation and the adept handling of specialized microprocessor hardware/software interfacing. The compiler features a multiuser system, strong optimization features, separate compilation, include statements, linkage with BSO/Pascal and BSO/Assembler object modules, ROM/RAM memory segregation, and



extensive interrupt-handling instructions. BSO/C is available for the Z80, 68000, 6809, 8086, 8088, and 8087.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department

(617) 894-7800 or TWX: (710) 324-0760

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

### **BSO/Debug Microprocessor Symbolic Debuggers**

**PDP-11 Operating System:** IAS, Micro/RXS, RSTS, RSX, RT-11, TNIX

**Keywords:** • Assemblers • Debugging  
• Microprocessor development • Programming tools

Memory required: 64KB.

BSO's microprocessor symbolic debuggers enable the microprocessor system designer to debug software in a protected real-time environment. BSO/Debug supports Intel 8086/88/87, 80186/88/87, 8085, 8051, 8096, and 8048 series; Motorola 68000, 6800 series, 6809, 6805; Zilog Z80, Z8000, Z8001, Z8002; Rockwell 6502; TI 9900, 1000; RCA 1802-1805; and others.

Debugger features include software testing in a protected environment, multiuser capabilities, code in assembly language for speed and compactness, full symbolic capability, full and accurate clock cycle counting, symbol-passing capability, extremely flexible setting of trace/breakpoints, unlimited trace data recording, user-definable instruction constructs, and an in-line symbolic assembler/disassembler.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department

(617) 894-7800 or TWX: (710) 324-0760

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

### **BSO/Mlib Microprocessor Program Librarian**

**PDP-11 Operating System:** IAS, Micro/RXS, RSTS, RSX, RT-11, TNIX

**Keywords:** • Microprocessor development • Programming tools

Memory required: 64KB.

Libraries are created by storing frequently needed subroutines or program segments in encoded, relocatable form with Mlib. During linking, the needed libraries are specified with Mlink commands. The external references in the calling program are then automatically

resolved by the linker. If programs in the library reference each other, Mlink resolves those references as well. The referenced library program segments are automatically included in the final output object file with the correct relative addressing values.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department

(617) 894-7800 or TWX: (710) 324-0760

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

### **BSO/Mlink Microprocessor Program Linker**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11, TNIX

**Keywords:** • Assemblers • Mapping

• Microprocessor development • Programming tools

Memory required: 64KB.

For multiple-module programming, BSO's assemblers can generate relocatable programs that are then joined into one program with the supplied linker, Mlink. Modules in user-generated object libraries, in either relocatable or absolute format, can also be included. Mlink can link an unlimited number of program modules, enabling the sophisticated programmer to write structured programs with many sections, each dealing with one task. Better documentation, fewer errors, and successful parallel programming should result. The final output of Mlink is a program in absolute object format. Written in assembly language, the linker is faster than any other microprocessor program linker. Features of Mlink are high-speed performance, multiuser capability, library access capability, multiple levels of global nesting, mapping capability, symbol-passing capability, 32-bit addressing, and 32-bit expression evaluation.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department

(617) 894-7800 or TWX: (710) 324-0760

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

### **BSO/Pascal Compiler**

**PDP-11 Operating System:** IAS, Micro/RSX, RSTS, RSX, TNIX

**Keywords:** • Compilers • Microprocessor development

• Programming tools

Memory required: 128KB



Designed specifically for microprocessor software development, this product offers the microprocessor system designer a powerful optimizing compiler that permits fast program creation and the adept handling of specialized microprocessor hardware/software interfacing. BSO/Pascal is available for the Z80, 68000, 6809, 8086, 8088, and 8087.

Features include ISO Standard conformance, multiuser capability, optimization, separate compilation, and an include statement. The compiler can be linked with assembly language modules, offers strong type checking for accurate programs, has ROM/RAM memory segregation and extensive interrupt-handling instructions, and has special variables to permit easy handling of record files.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department

(617) 894-7800 or TWX: (710) 324-0760

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

### **BSO/PLM Compiler**

**PDP-11 Operating System:** IAS, Micro/RX, RX, UNIX

**Keywords:** • Compilers • Microprocessor development

Memory required: 128KB minimum.

Designed for microprocessor software development, this product offers the microprocessor system designer an optimizing compiler that permits fast program creation and adept handling of specialized microprocessor hardware/software interfacing. This multiuser optimizing system conforms to the ISO standard. Features include separate compilation, include statements, and ROM/RAM memory segregation. Extensive interrupt handling and strong type checking are included. The system uses special variables to permit easy handling of record files. The system can be linked with assembly language modules.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Department

(617) 894-7800

BOSTON SYSTEMS OFFICE, INC.

128 Technology Center

Waltham, MA 02254-9164

### **BUG: A Debugging Tool Used on Existing IAS Tasks**

**PDP-11 Operating System:** IAS

**Keywords:** • Debugging

Memory required: 16KW.

This debugging tool, written in MACRO-11, can be used on IAS tasks. The task does not have to be TKBed with a debugging module (as with ODT). A disassembler is built into BUG, and single-stepping, breakpoints, and memory inspection/change (octal, ASCII, RAD50) features are among its useful features. DSW values, condition code bits, and registers are continually updated automatically in the single-step mode. Screens are provided for single stepping/inspecting disassembled code, inspecting/changing memory contents, and providing help. BUG is "retrofitted" to an existing task and executes out of approximately one-half the default stack. DECUS number 11-748.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **CAMAC Support Library for Industrial Systems**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Disk utilities • Instrumentation  
• Programming tools

An implementation rather than a specification, the CAMAC library provides a system of ready-made computer-independent software modules that can be referenced by the application programs. Much beyond IML or handlers for specific CAMAC systems, the CAMAC Support Library for Industrial Systems includes test, adapter, and general utility programs. The library may be considered analogous to the various instrumentation modules, test equipment, and highway adapters that support CAMAC systems from a hardware standpoint. The library provides similar support in a software structure.

Written in standard FORTRAN (ANSI X3.9-1966) or ISO Full FORTRAN (R/539-1972), the main library includes about 4000 source records. The library is organized into sublibraries. A separate file name is suggested for each main program (for example, a utility program); related subprograms (functions and subroutines) are grouped, with a file name suggested for each group. DECUS number 11-268.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **CAMIC (Computer-Aided Microprocessing)**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Cross-compilers • Microprocessor development  
• Pre- and postprocessors • Text management

As a universal development system for microprocessor software, CAMIC can be used for all microprocessors on the market and can be configured to suit all users and their processors. All products of the software life cycle (documents and programs) are held in a project library, providing access to all information and supporting quality assurance and data security. The system offers Pascal and C cross-compilers with run-time libraries and cross-assemblers for Intel, Motorola, and Zilog processors. The system includes an efficient test system that supports software testing on a functional level — automatic creation of



test frames, assertion processing, and measurement of test coverage — and symbolic debugging with integrated in-circuit emulators.

A version of this product is available for VAX computers.

**Price:** DM 60.000 – DM 120.000

**Contact:** CAMIC Sales Department  
49-89 92 52 – 319

SOFTLAB GMBH

Zamdorfer Strasse 120

8000 Munich, Bavaria 80 West Germany

### **CDOC — C Source Code Format Utility**

**PDP-11 Operating System:** Independent

**Keywords:** • Source code control • Text management

Available in source and object formats, CDOC is used to format C or Pascal source file listings. Control information is embedded directly into the source text as legal comments (for example, /\* ... \*/). CDOC scans the source code for control commands prior to printing and controls page breaks, titling, primary and secondary page headings, and indentation. Sections of source files may be automatically extracted for inclusion in other files. CDOC is useful in updating/writing functional specifications.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht  
(617) 491-4180

OASYS

60 Aberdeen Avenue

Cambridge, MA 02138

### **CIT101: Routines to Drive the CIT101 and VT100 Terminals**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Source code control

Memory required: 1328(decimal) words.

CIT101, a MACRO subroutine that is an extension of the DECUS number 11-424, is a collection of FORTRAN-callable routines for control of the VT100 terminal functions. Additions to this package include support for the enhanced screen-control features of the CIT101 terminal, including both the 10A and the 11C ROM sets and for the CIT101 and VT100/102 printer ports. Both of those extra features are individually available as conditional assemblies in the source code. The original submission has been recoded to reduce its size. The code has also been divided into I and D PSECTs. DECUS number 11-424.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

**CLIP (Command Language Interpreter)****PDP-11 Operating System:** RSTS**Keywords:** • Diagnostics • Interpreters • Programming tools  
• Software utilities

This RSTS/E keyboard monitor, supporting RSTS/E Version 7.0, 7.1, 7.2, or 8.0 operating systems, executes commands from indirect command files. CLIP can be a system default keyboard monitor, allowing user-defined symbols and synonyms, permitting conditional execution of commands, and providing error handling and CTRL/C trapping, with a facility for save and restore. CLIP uses a pseudokeyboard only when required.

**Price:** \$800 – \$1000**Contact:** H. B. H. Reporter, Managing Director

021-355 3511 or Telex: 335797 FOURTH G

FOURTH DIMENSION PRODUCTS LTD.

Fourth Dimension Building, 10 King Edward Square

Sutton Coldfield, West Midlands B73 6AP United Kingdom

**CLUE™ (C (Source Level) Linecount Utility)****PDP-11 Operating System:** RSX**Keywords:** • Debugging • Microprocessor development  
• Programming tools

CLUE is used by software engineers as a profiler, debugging tool, and aid to C program verification. CLUE Profiler is available in binary or source formats.

CLUE finds where a C program spends its time and resources during execution by recording the frequency of execution of each C statement (or line). After each run, CLUE can be used to generate tailor-made statistical reports and graphs (histograms).

CLUE features a comprehensive set of report generators and report "filters" that enable a user to find time- and space-critical sections of code. CLUE also features a function trace tree, detailed resource utilization statistics (CPU and I/O), and time performance functionality. CLUE may be used as a debugging tool by tracing execution paths. As a verification aid, CLUE shows how effective test programs really are in exercising a target C program.

CLUE can be used with all C compilers that conform to the standard as described by Kernighan and Ritchie; has a built-in C preprocessor that prepares code for compilation with the host computer's C compiler; includes an easy-to-use command language; incorporates a C source code line count profiler that selects ranges by C function, all or a range of lines within a function, and all lines except those in selected functions; and provides command descriptions in UNIX\* manual style.

A version of this product is available for VAX computers.



**Price:** Available upon request

**Contact:** Joel Schacht  
(617) 491-4180  
OASYS  
60 Aberdeen Avenue  
Cambridge, MA 02138

## COBEX-11

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Pre- and postprocessors • Programming tools  
• Software utilities

This software tool allows large COBOL programs to be run without overlays. Program size can be increased to 64K by using prewritten utilities. COBEX-11 speeds up execution time and provides more efficient memory use by moving the I/O buffers out of the task area and by using dynamic allocation.

A log of program execution is available with the facility to change COBOL switches at any time and to support sequential files. File protection is available. A COBOL preprocessor can automatically modify source programs.

**Price:** \$800 - \$1000

**Contact:** H. B. H. Reporter, Managing Director  
021-355 3511 or Telex: 335797 FOURTH G  
FOURTH DIMENSION PRODUCTS LTD.  
Fourth Dimension Building, 10 King Edward Square  
Sutton Coldfield, West Midlands B73 6AP United Kingdom

## CPLIB

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Data collection • Instrumentation  
• Programming tools

CPLIB is a real-time software package for Data Translation's Continuous Performance A/D, Continuous Performance D/A, and programmable clock boards for the LSI-11 bus. The package consists of a library of routines designed to be linked to the user's FORTRAN IV programs. Subroutine calls provide analog and digital data transfer in and out of a system, with high aggregate analog data input rates of up to 250 kHz to memory and continuous throughput to/from disk of up to 95 kHz. The system supports high-resolution point plotting on an X-Y plotter or CRT. A complete error reporter checks for programming errors and reports syntax and usage errors and attempts to operate the hardware in an illegal mode. The system supports RT-11 completion routine capability, which allows the user to asynchronously activate FORTRAN IV or MACRO subroutines at the completion of I/O routines.

**Price:** \$1995

**Contact:** Tony Direnzo  
(617) 481-3700 ext. 671  
DATA TRANSLATION, INC.  
100 Locke Drive  
Marlboro, MA 01752

### **CROSS: A Cross-Referencer for BASIC Programs**

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Disk utilities

Three versions of this group of BASIC V2 cross-referencing programs exist: CROSS.BAS, CROSSV.BAS, and the 3-part CROSS0.BAS, CROSS1.BAS, and CROSS2.BAS. CROSS.BAS requires the most memory and executes the most quickly. CROSSV.BAS puts some arrays out on the system disk to reduce memory requirements at the expense of operating speed. In addition to putting the arrays on the system disk, CROSS0.BAS chains to CROSS1.BAS, which in turn chains to CROSS2.BAS. That chaining further reduces memory requirements, with an additional decrease in operating speed. DECUS number 11-491.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Cross-Assemblers**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Assemblers • Cross-assemblers  
• Microprocessor development • Programming tools

The A6502, AZ80, and A6809 assemblers are fast and powerful tools used to maximize productivity in the development of microcomputer software. Features include complete multimodule linkage and relocation facilities for program sections and expression evaluation, a comprehensive macro facility, conditional assembly, cross-reference generation, full 2-pass assembly, complete (*n*-pass) forward reference resolution, and error reporting with full text messages rather than cryptic error codes.

ALINK, included with the assemblers, produces object code in a variety of industry-standard formats for use with PROM programmers and emulators. Available for use with debugging tools with symbolic capability are formats that include symbol table information.

Custom assemblers for proprietary CPUs are available on a contract basis.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$1250

**Contact:** Shal Farley, President  
(818) 351-5493



CHESHIRE ENGINEERING CORP.  
650 Sierra Madre Villa, Suite 201  
Pasadena, CA 91107

### **Csharp Realtime Toolkit**

**PDP-11 Operating System:** Independent, None required

**Keywords:** • Graphics • Process control • Real time  
• Research

Csharp provides tools for writing process control application programs in the C language. The package consists of five independent modules — CGRAPH, high-speed, device-independent graphics; CSCHED, real-time scheduling of processes at user-determined times; CISR, interrupt service routine dispatching; CSTATE, control structures based on a powerful state system notation; and CEVENT, hardware and software event handling.

Csharp modules allow process control, laboratory control, graphics display control, and other real-time programs to be written completely in a high-level language. None of the modules depends on any of the others, but they retain compatibility with one another. Thus, the package can be tailored to meet memory requirements. In addition, Csharp is distributed as source code and can be modified by the user to tailor the modules even more closely to specific requirements.

Csharp is processor independent and will run on the entire PDP-11 family as well as on 8- and 16-bit micros. Csharp will run under most DIGITAL operating systems or can be embedded in stand-alone software.

**Price:** \$600

**Contact:** Doug Whittington  
(617) 451-8479  
SYSTEMS GUILD, INC.  
P.O. Box 1085  
Cambridge, MA 02142

### **CVLLIB: General-Purpose Library for RT-MACRO and FORTRAN for the Professional**

**PRO Operating System:** RT-11

**Keywords:** • Mathematics • Software utilities

CVLLIB is a personal general-purpose library for the RT-11 MACRO and FORTRAN programmer. Routines cover reading and writing decimal (up to triple precision) and octal (up to double precision) integers, money formats (double and triple precision), dates and times, file names, and RAD50 formats.

The library is divided into three segments: General/MACRO, Real Number, and FORTRAN. DECUS number PRO-107.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

**CVLLIB: General-Purpose RT-11 Library****PDP-11 Operating System:** RT-11**Keywords:** • Mathematics • Software utilities

This library for the RT-11 MACRO, FORTRAN, or C programmer has routines to cover reading and writing decimal (up to triple-precision) and octal and hexadecimal (up to double-precision) integers, money format (double or triple precision), dates and times, file names, and Radix-50 formats. Numerous convenience routines are included with multiple-precision arithmetic routines, none of which requires an EIS or FIS, and real (floating-point) routines, but they require either a KEV11 or a floating-point hardware unit (FPU).

This version comprises the MACRO, FORTRAN, and real-number sections of CVLLIB. DECUS number 11-558.

Note: CVLLIB is reorganized internally and bug fixes and manuals are updated.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**Data I/O PROM Programmer Software and Utility Program****PDP-11 Operating System:** RT-11**Keywords:** • File transfer • Software utilities

This software consists of subroutines that can be used to perform standard read, write, and compare operations on the Data I/O System 19 universal PROM Programmer and a utility program that allows each of those operations to be performed interactively or indirectly from a command file. The unique feature of this software is that file and read operations are supported by the subroutines, thereby relieving the user of the task of writing those functions and allowing the hex data to be stored directly in files. Functions that perform 16-bit hex addition and subtraction are included. DECUS number 11-547.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**DCW Menu for RSTS/E Systems****PDP-11 Operating System:** RSTS**Keywords:** • Menu handlers

Memory required: 16KW.

The DCW Menu supports the creation, interactive editing, and use of menus with RSTS/E systems. The programs are written in BASIC-PLUS to run on any RSTS/E system. The DCW Menu includes programs to initialize menu files; add, delete, and edit menus; and change menu control parameters. The Menu program is used to access menu files.

Each menu may contain up to 36 items. Longer menus may be divided into two or more linked menus or organized into nested submenus.



Menu, easy to learn and use for both user and manager, includes password protection of menu items, disengagement of CTRL/C, return from program to previous menu, enforcement of private logical names, and user-private default keyboard monitors. DECUS number 11-610.

Restrictions: Echo-control mode is required.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DDT: A Symbolic Debugger for P/OS**

**PDP-11 Operating System:** Micro/RXS, RSX

**Keywords:** • Debugging

Memory required: 200 words task; 20KW separate task.

This powerful symbolic debugger for PDP-11 systems features symbolic debugging, optionally from a second task so that you give up only 200 words in the task being debugged. Symbols can be read from a symbol table file created by the linker or entered interactively. DDT can also symbolically examine/modify disk files as though they were memory, a useful facility when a crash occurs.

Flow control is extensive and on the 11/73 supports 1- and D-space, when available. Facilities include breakpoints, single stepping, multiple watchpoints, conditional breaks, execution of saved commands at breaks, interactive instruction execution, and much more. Data formats that can be entered include MACRO-11 instructions; 16-bit integers in octal, hex, binary, ASCII, decimal, or RAD50; 32-bit integers in the radix of your choice (from 2 to 36); and floating-point numbers, 32 or 64 bits long. DDT can be built to access any part of the machine, including kernel-mode space. DDT has special support for overlaid tasks, and breakpoints can be handled in overlays. DDT can be set to debug several interacting tasks from a single debugger.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DDT22: Virtual Debugger and Systems Package**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Debugging • Mapping • Mathematics

DDT22, a symbolic debugger with PDP-10-like commands, can run on any PDP-11 and any DECsystem and can handle all languages. The program gives a large superset of ODT commands, including instruction display, floating point, long integers, watchpoints, and NAMED addresses, and can read symbol table files or debug disk images in RSX-11. DDT22 can be built nonprivileged and can debug tasks from a separate task in RSX-11M/M-PLUS, requiring only about 200 words of task space. Versions able to examine arbitrary memory can be built also by a powerful DDT build command file.

DDTSYM allows 22-bit space access but no other extras. GHASP is a generalized FORTRAN histogram/scatterplot maker. FPDM is a floating-point emulator for 11M/11S systems that need no sysgen;

FPEM makes the PDP-11 appear to have a floating-point processor. RSX-11 must not know about it, F4P must be built with F4PEIS in its OTS to use, and tasks need the /FP switch.

VDDRV gives virtual, optionally encrypted disks for IAS/RSX-11D systems for all functions except task load. DECUS number 11-SP-6.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### DEBUG/RT (Debugger)

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Debugging • Diagnostics

• Microprocessor development • Modeling/simulation

DEBUG/RT is an advanced debugger designed to work with OS/RT, Destek's real-time, multitasking operating system kernel. DEBUG/RT is used to debug the OS/RT customer's user processes (application code) and on OS/RT itself if custom changes to the OS are being implemented. DEBUG/RT will allow access to control blocks from resources normally hidden from the user, the interception of interrupts, and the simulation of external events. A version of the Debugger is also available to work with Destek's series of optimized cross-compilers for VAX and PDP-11 minicomputers that produce 68000, 8088/86/186, Z8000, and Z80.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Dennis Rieger  
(408) 737-7211

THE DESTEK GROUP

830 East Evelyn Avenue  
Sunnyvale, CA 94086

### DECTalk Application Support Library

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Modeling/simulation  
• Software utilities • Telecommunications

This extensive collection of subroutines, written in C, simplifies application development. The library includes subroutines to carry out DECTalk-specific functions, such as answering the phone, as well as low-level operating system-specific functions, such as generating and parsing escape sequences.

Several simple application programs are provided, including the DECTalk telephone demonstration program and a "spoken fortune cookie" program. Other sample programs are written in BASIC-PLUS and COBOL for RSTS/E. Also provided are source modules, including several operating system-specific libraries also distributed with C Language System (DECUS number 11-SP-18).



The VAX distribution contains source files and executable code; the PDP-11 distribution contains only source modules. UNIX\* installations should obtain the PDP-11 distribution and make their own arrangements for tape file format translation. DECUS number 11-SP-58.

Restrictions: UNIX\* systems may have release-specific code. PDP-11 and compatibility mode implies DECUS C, DECUS number 11-SP-18.

Note: VAX users should refer to DECUS number V-SP-20; UNIX\* users, to DECUS number 11-SP-58.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DIBOL Collection**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Disk utilities • Games • Programming tools  
• Software utilities

Memory required: 64KB.

Some DIBOL Collection programs are Clinical Laboratory System (documented), Mail List System, Source Formatting Program DIBOL/11 (documented), RT-11 Batch Program Generator & Disk Resequencing Program (documented), Source Formatting Program DIBOL/8 (documented), RMS11K ISAM Area Descriptor Print Program, The Game of Life (documented), Business Operations Model, Mfrg (documented), Chess (documented), Master Mind, CTS-300 Test Flag Subroutine, Aircraft Landing Simulation (DC-10), Banner, Othello, Convert Gregorian Date to Julian Date, Convert Julian Date to Gregorian Date, Convert System Date to Gregorian & Julian Equivalents, Determine Weekday from Julian Date, Julian Date Subtraction, State Validation, DIBOL/11 CRT I/O Routines, Date Elapsed Time Calculation, Record Lock Routine, and Star Trek.

No guarantees are made as to the completeness, usability, or quality of the programs on the tape. The material has not been checked or reviewed. DECUS number 11-SP-46.

Restrictions: A few of the programs do not have related source files.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DIBOL Subroutines**

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Data collection  
• Data conversion • Software utilities

This collection converts Gregorian date to Julian and vice versa, accepts data from CRT, validates state abbreviations, provides

state/city tax calculation routines, contains programs that create DIBOL compilation job streams for submission to batch, and includes source and object libraries. DECUS number 11-624.

Note: SUBLIB.DOC file explains usage of subroutines.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## DMS-500 (Data Management Services)

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Data base management  
• Disk utilities • Software utilities

This extension of the RSTS/E system software aids the development and operation of business applications on a RSTS/E operating system. The software modules in the package provide general methods for organizing and processing logical data records stored in indexed random (hashed), indexed sequential, and relative-access file structures. Interactive utility routines are provided to define, allocate, and organize data into those file structures.

Interfaces to the RSTS/E file system, control of direct-access device input/output, and data buffering are handled by selected software modules appended to user BASIC-PLUS programs. User-developed programs establish file-processing modes and specify input/output operations by using BASIC-PLUS function calls. Application programs identify specific logical records to be added, retrieved, modified, and deleted from file structures. Retrieval and update control for multiple, concurrently operating user programs that access the same data file structures are handled by system-level routines.

An extended sort facility is provided to sequence data maintained in either the DMS-500 Indexed Access Method (IAM) and Indexed Sequential/Relative Access Method (ISAM/RAM) data files or normal BASIC-PLUS record I/O files in blocked data record formats. A multi-volume sort input/output capability is included.

Refer to SPD #13.05.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$228 - \$1360

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## DTLIB

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Data collection • Programming tools

DTLIB is a real-time software package for a wide variety of LSI-11/2- and LSI-23-compatible data acquisition and control interfaces. The package, which consists of a library of routines designed to be linked to user FORTRAN programs, supports hardware from both Data Translation and DIGITAL (AAV11-C, ADV11-C, AXV11-C, and KVV11-C).



The package transfers analog and digital data in and out of a system with full support of the hardware features. The routines are accessed through subroutines and function calls from a user's FORTRAN IV program.

A completion routine capability allows the DTLIB user to write FORTRAN IV or MACRO-11 subroutines that will automatically be activated asynchronously on the completion of I/O events, such as the filling of a data buffer. That capability can be used, for example, to support double-buffered analog or digital I/O operations.

A complete error reporter checks for programming errors and reports syntax and usage errors for easy correction. Attempts to operate the interfaces in illegal modes of operation are reported before a nonvalid operation is performed.

**Price:** \$995

**Contact:** Tony Direnzo  
(617) 481-3700 ext. 671  
DATA TRANSLATION, INC.  
100 Locke Drive  
Marlboro, MA 01752

### **EasyEntry Forms Management and Data Entry System**

**PDP-11 Operating System:** IAS, Micro/RXS, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Data entry • Forms management  
• Information management • Programming tools

This full-screen forms management and data entry system for the on-screen design and implementation of data entry applications eliminates such time-consuming steps as forms layout, coding, compiling, and testing. Once designed, forms can be completed by using a fill-in-the-blank technique. EasyEntry supports high-volume data entry and data modification on a variety of CRT terminals while imposing relatively low overhead.

EasyEntry provides functions that can be performed on the input fields, including range and validity checks, arithmetic calculations, automatic duplication of fields, batch totals, and specification of additional attributes, such as overpunch signs, left-zero fill, and dates. Other features include table lookup, rekey verification, error messages, field- and form-level help facilities, operator statistics, split-screening, program calling, and forms-chaining. EasyEntry supports special display attributes of terminals, such as bold, blinking, and color.

A version of this product is available for VAX computers.

**Price:** \$1000 - \$5000

**Contact:** Elizabeth F. Epermanis  
(919) 942-7801

**APPLIED INFORMATION SYSTEMS, INC.**

500 Eastowne Drive, Suite 207  
Chapel Hill, NC 27514

**Enforcer I™**

**PDP-11 Operating System:** Independent

**Keywords:** • Documentation tools • Programming tools  
• Quality control • Source code control

Memory required: 276K.

This automated quality assurance standards monitor, written in COBOL, examines COBOL coding, identifies deviations from company standards, and includes a metrics portion that evaluates both functional complexity and coding clarity. No interruption to the programming process is noticeable. This effective monitoring will increase programming productivity. Enforcer I can be tailored.

A version of this product is available for VAX computers.

**Price:** \$18,000

**Contact:** Jerry Sitner  
(212) 254-3358

**CLARITY CONCEPT SYSTEMS CO.™**  
14 Washington Place  
New York, NY 10003

**epsitool:assemble**

**PDP-11 Operating System:** RSX

**Keywords:** • Assemblers • Cross-assemblers • Cross-compilers  
• Microprocessor development

This series of absolute 2-pass assemblers for microprocessors combines high performance (2000 lines/minute on a VAX-11/780) with features for assembly control and listing production. The syntax of assembler directives, expressions, radix operators, and more is patterned after the DIGITAL MACRO style.

The epsitool:assemble assembler features symbols of arbitrary length in upper- and lowercase; decimal, binary, octal, and hexadecimal numbers, as well as 1- and 2-character ASCII character constants; expressions comprised of symbols and numbers, using operators; and bracketing. Also included are assembler directives for location counter control, data definition, listing control, source text inclusion, conditional assembly, and global symbol definition. The latter provides for separate assembly, using the global definitions in subsequent assemblies. Instructions of the target processor and address modes are supported.

The assembler listing states date and time of assembly, lists the source instructions and their translation, and contains a symbol table and, optionally, a cross-reference list.



The object code is Intel Hex format, Motorola S-record format, or MINIMIC format.

The following microprocessors are covered: Intel 8080, Motorola 6800/01/04/09, Zilog Z80, and MOS Technology 6502. Assemblers for other processors can be generated on demand.

A version of this product is available for VAX computers.

**Price:** \$1200 – \$2200

**Contact:** Hartmut Feuerhahn  
+ 49-30-8826991

EPSILON

Kurfürstendamm 188

D-1000 Berlin 15 West Germany

### **FDT (FORTRAN Debugging Tool)**

**PDP-11 Operating System:** RSX

**Keywords:** • Debugging • Programming tools

This on-line, interactive debugging aid for programs written in FORTRAN facilitates the task of locating and correcting program bugs, reducing debugging time by approximately 50%. FDT allows the user to display and modify any program variable in all FORTRAN-supported formats. FDT allows complete control over program execution through run-time-selected breakpoints, execution of one FORTRAN line at a time, and transfer of program control to any FORTRAN line number. FDT also intercepts FORTRAN run-time errors and returns program control to the user.

This tool can delete any FORTRAN statement and, wherever possible, offers commands that are identical in syntax and function to ODT commands. FDT has an overlaid version that executes in about 600 words of memory and replaces calls to nonexistent subroutines to facilitate testing partial programs.

**Price:** \$500

**Contact:** Michael Gow

(613) 748-0209 or 1-800-267-3862

DEMARC SOFTWARE LTD.

1260 Old Innes Road

Ottawa, Ontario K1B 3V3 Canada

### **FEPCM Software Tools Kit**

**PDP-11 Operating System:** RSX

**Keywords:** • Application development • Device drivers/handlers  
• Down-line loading • Systems communications

This package of software modules helps a user develop applications for the FEPCM front-end processor system. The kit can be used in two ways; in either case, the user must also write a VAX/VMS application task to communicate with the VMS Bridge Driver.

The FEPCM Software Tools Kit contains five modules:

- The VMS Bridge Driver provides access to the FEPCM system through the VAX/VMS Queue I/O system service. The driver initiates transfers by issuing commands to the front end.
- The Front-End Bridge Driver provides access to the FEPCM system for the VAX/VMS user through the bridge interface. Access for the RSX-11 user is provided by the RSX-11 Queue I/O directive.
- The Front-End Template I/O Driver provides an example of how to write a front-end driver to support the functions of the VMS Bridge Driver.
- The Front-End Template User Task provides an example of how to write a front-end task to handle I/O requests from the VMS Bridge Driver by returning every request with successful status.
- The Down-Line Load package provides system maintenance requirements, including down-line loading a front end, taking front-end system crash dumps, and reporting status about each front end.

Refer to SPD #25.51.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for VAX computers.

**Price:** \$9900

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **FILDMP: File Dump Utility and Object Module Cracker**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Documentation tools • Source code control

FILDMP is a FORTRAN program written to function like the DOS/BATCH-11 FILDMP program. In addition, a dump mode is included to read object module files, crack the internal code, and present the various object record types. (No disassembly of object code is attempted.) Minor conversion will be necessary from F4P form to F4 or FTN. DECUS number 11-242.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FILETAB-D**

**PDP-11 Operating System:** CTS-300, IAS, Micro/RSTS, Micro/RSX, RSTS, RSX, RT-11, ULTRIX-11

**PRO Operating System:** CTS-300, Idris™, P/OS, PRO/VENIX™, RT-11, TSX-11, XENIX™

**Keywords:** • Application development • Compilers  
• Cross-compilers • Data base management

This complete, high-productivity, general-purpose programming system allows users to express program logic by using decision tables. It provides a faster, easier way to develop and maintain applications programs and software packages. System features include flexible data handling, automatic reporting, clear representation of logic by using decision tables, on-screen formatting, automatic data validation, diagnostics, and debugging.



The integral report generator is ideal for satisfying users' demands for 1-off reports. It is also a powerful tool for file maintenance and system test and audit.

FILETAB-D users report a reduction in programming time-scales of 6:1; fast, easy program maintenance; and a new capacity for fast response to requests for 1-off reports. FILETAB-D incorporates a file handler that is fully compatible with the data base in Ace Microsystems LEX software, thus providing a powerful extension to LEX.

In the United States, contact Eric Dickman, EEC Systems Inc., 327/E Boston Post Road, Sudbury, MA 01776.

Idris™ is a trademark of Whitesmiths, Ltd. VENIX™ is a trademark of VenturCom, Inc. XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** £950 – £6000

**Contact:** J. E. Irwin

01-847 4673

ACE MICROSYSTEMS LTD.

Kew Bridge House, Kew Bridge

Brentford, Middlesex TW8 0EJ United Kingdom

### **Flexware Application Development System**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Application development • Data base management  
• Documentation tools • Programming tools

Memory required: 256K RAM.

This system, programmed in Pascal, is ideal for both vertical market software package development and custom programming. Data can be shared between Flexware applications and many popular spreadsheets, data bases, graphics packages, and word processors. The features include support for both local and remote access; the ability to be customized to meet individual requirements and international standards; a totally consistent operator interface and true multiuser capability, with file and record locking; a built-in, flexible data base and data access through a spreadsheet program; automatic handling of multiple companies and cross-references; extensive on-line help; a graphics option; windows; a user-friendly report writer and query processor; and elaborate data security down to the field level.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause

(818) 961-0237

MICROFINANCIAL CORP.

15404 E. Valley Boulevard

Industry, CA 91746

### **Floating-Point and Math Package LSI-FPP**

**PDP-11 Operating System:** RSX

**Keywords:** • Mathematics • Software utilities

This comprehensive set of subroutines for the LSI-11 family enables the user to perform virtually any arithmetic operation. The package requires the LSI floating-point instruction set. DECUS number 11-497.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FODT (FORTRAN IV On-Line Debugging Tool for RSX-11)**

**PDP-11 Operating System:** RSX

**Keywords:** • Debugging

Memory required: 730 words.

This debugging aid allows the user of RSX-11D/M FORTRAN IV and RT-11 FORTRAN IV to monitor program operation, using commands similar to ODT. FODT provides a subset of the commands available with ODT, such as single stepping, breakpoints, and inspection of several types of variables. FODT can be built into a task without editing or recompiling the source and does not interfere with the normal operation of FORTRAN IV. DECUS number 11-270A.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FODT (FORTRAN IV On-Line Debugging Tool for RT-11)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging

Memory required: 730 words.

DECUS number 11-270, FODT, has been modified by the addition of assembly conditionals to run under the RT-11 and RSX-11M/D operating systems. Everything supported in the original RSX-11M/D version is supported under RT-11, with the exception of changing LUNs for the console terminal. DECUS number 11-270B.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FODT: FORTRAN-IV On-Line Debugging Tool for RT-11 for the Professional 300**

**PRO Operating System:** RT-11

**Keywords:** • Debugging

This program lets RT-11 FORTRAN-IV users monitor the operation of their programs by using commands similar to ODT. FODT provides a subset of the commands available with ODT, such as single stepping, breakpoints, and inspection of several types of variables. FODT can be built to a task without editing or recompiling the source and does not



interfere with the normal operation of FORTRAN-IV. DECUS number PRO-114.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### Form Driver

**PDP-11 Operating System:** Micro/RXS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Application development • Forms management  
• Software utilities

This set of system-independent subroutines permits the development of application programs using formatted video screens on a VT100 or VT200 video terminal. Such forms are the interactive interface between an application program and a terminal operator.

The application program controls the interaction between the terminal operator and a form by subroutine calls to the form driver. Under the direction of the application program, the form driver handles all terminal input and output, formats the screen, and performs basic validation of the operator's input.

The form driver's call interface, which follows the DIGITAL standard calling sequence, allows development of applications programs written in assembler or high-level languages. Calls to the form driver are identical under all supported languages and operating systems.

**Price:** \$250 – \$1900

**Contact:** R. Wolf or T. Engel  
061 88 29 50

ADSOFT LTD.

Im Baumgarten 6

CH-4313 Moehlin Switzerland

### FORMAT (Forms Management Transaction System), Version 5.1

**PDP-11 Operating System:** Independent

**Keywords:** • Forms management • Menu handlers  
• Programming tools

Forms are easy to design and implement, using the forms designer or command processing language in this full-screen forms management system. Once an application is compiled and linked, form modifications do not require additional relinking time. The forms library stores multiple forms for easy access, and FORMAT maintains a common user interface between FORTRAN and other language applications.

When the user enters data into fields, the characters are verified against each field's valid character set. FORMAT processes each form on a field-by-field basis. Field user action routines can verify each field entered before continuing to subsequent fields. When the form is completed, FORMAT's library modules can extract the data entered for

each field as characters or as floating-point or integer values. With FORMAT's powerful library, cross-field operations are easily handled.

FORMAT supports fill-in-the-blanks data entry and inquiry forms. Menu and multiple-choice forms with highlighted cursor positioning are supported.

FORMAT features scrolling and windowing, data entry using either insert or overstrike mode, and multiline field help along with full-screen help. Standard forms management features of reverse video, bold, blink, and underline are included. Field editing and display options include password protection (suppression of entered data), display only, and edit with display. Field completion is selectable to a special key, completion of the entire field, or both. The field-processing parameters are easily changed, using the powerful library utilities.

FORMAT was designed and implemented using FORTRAN-77 and is available for various hardware and terminal types. Source code is available, along with sample terminal interfaces.

A version of this product is available for VAX computers.

**Price:** \$150 - \$25,000

**Contact:** Francisco Salazar

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LA MESA RESEARCH AND DEVELOPMENT  
P.O. Box 31  
Louisville, CO 80027

### **FORODT: FORTRAN Debug Routine for RT-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Language enhancers  
• Programming tools

FORODT is an extension of ODT, allowing run-time debugging of FORTRAN programs. Eight FORTRAN breakpoints may be set and cleared at run time. Data can be displayed and modified in octal, decimal integer, and single- and double-precision floating point. A "GOTO" command is provided to alter the order of execution. All features of ODT are included, so assembly language subroutines can also be debugged. DECUS number 11-356.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FORTRAN-77 and BASIC Runtime Units**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™

**Keywords:** • Compilers • Documentation tools

The p-System FORTRAN-77 and BASIC Runtime Units support the execution of p-System application programs written in FORTRAN-77 and BASIC.

p-System™ is a trademark of Pecan Systems, Inc.



**Price:** \$59.95

**Contact:** Eli Willner  
(718) 851-3100

PECAN SOFTWARE SYSTEMS, INC.  
1410 39th St.  
Brooklyn, NY 11218

### **FORTRAN Development Library**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Data conversion • Data entry • File management

This library of 30 subroutines can be linked into a FORTRAN program to facilitate data entry, file access, and string handling. The package includes cursor control and other screen-handling functions; string conversions to or from integer, double integer, octal, and date; file access for private or shared indexed files; and disk sort.

**Price:** \$795

**Contact:** David M. Perlman  
(612) 546-2364

D P COMPUTER SYSTEMS  
8708 Hopewood Avenue  
Minneapolis, MN 55427

### **FORTRAN IV-PLUS and FORTRAN-77 On-Line Debugger**

**PDP-11 Operating System:** RSX

**Keywords:** • Debugging

Memory required: 1000KW.

This program, a revision of the FODT On-Line Debugging Tool (DECUS number 11-270A), enables users to debug any application program written in FORTRAN IV-PLUS or FORTRAN-77 under RSX-11M, provided that the task is not overlaid. DECUS number 11-756.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FPAC/DPAC Floating-Point Library**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mathematics • Software utilities

This floating-point library offers both single-precision (FPAC, 32-bit) and double-precision (DPAC, 64-bit) formats in a complete math package for the 8096, 8086, 8088, 8051, 8085, Z80, 6809, and 68000 CPUs. The libraries conform to the proposed IEEE floating-point standard and feature basic operations (add/subtract, multiply, divide, compare, int, fix, aint, float), functions (sine, cosine, tangent, arctangent, square root, log, ln, exponentiation), and double precision. The libraries are delivered in source assembly for ease of application customization, and the package is fully ROMable.

**Price:** \$750 - \$1250

**Contact:** Donald L. Dunstan  
(503) 645-5043

UNITED STATES SOFTWARE CORP.

5470 N.W. Innisbrook Place  
Portland, OR 97229

### GPIO Software

**PDP-11 Operating System:** MicroPower/Pascal, RSX, RT-11,  
TSX-PLUS™

**Keywords:** • Networking • Systems communications

The GPIO software supports our IEEE-488 interfaces to the UNIBUS and Q-bus. The software, easily installed as part of the operating system, provides the complete set of GPIO operations, including talker, listener, active controller, and system controller. Multiboard software handlers are also available. An interactive control program (IBIC) allows the user to perform any function from a terminal independent of an application program. IBIC is a powerful software development and troubleshooting tool.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$500

**Contact:** NI Sales

(800) 531-GPIO or (in Texas) (800) IEEE 488

NATIONAL INSTRUMENTS

12109 Technology Boulevard  
Austin, TX 78727

### GSE-11

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Aeronautics/aerospace • Diagnostics  
• Modeling/simulation

Memory required: 64KB.

This user-configurable spacecraft or instrument command data display and recording system standardizes the spacecraft and instrument data and command interfaces. The data interface is DIGITAL's DRV11-B parallel DMA interface; the command interface, DIGITAL's DRV11 parallel interface. A spacecraft/instrument command definition facility provides complete flexibility in defining the user-command syntax and mnemonics. A data display definition facility allows the user to define the real-time data display and includes data selection, positioning, conversion tables and routines, and value limit checking. In addition, a data recording facility allows the recording of selected data words with a time tag (system and GMT) and a user-defined label.



With GSE-11, a user can define and store commands and test sequences for highly automated testing. The procedures can contain system directives to verify selected input data, timed wait, and operator intervention and to execute nested procedures.

**Price:** \$9500 – \$25,000

**Contact:** D. Bruce McIndoe  
(301) 421-1224

CSSI

3901 National Drive, Suite 280  
Burtonsville, MD 20866

## **INDENT/BASIC-PLUS-2 Programming Templates**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data entry • Forms management  
• Programming tools • Software utilities

Memory required: 32K.

This package, which consists of both templates and utility subprograms, can be used to write data entry/edit programs in BASIC-PLUS-2 with INDENT as the screen handler. The templates include subprograms to add, update, inquire about, or delete a single record from an RMS indexed file; update entire forms; or update an individual field, allowing the programmer to insert additional validation or file lookups. Those templates must be modified to meet the needs of the user's application.

Any of the templates can call one or more standard utility subprograms. Utilities include one subprogram for each RMS verb, one subprogram for each common "end-of-screen" prompt, a subprogram for any FINPT call, and a subprogram for any FUPD call.

Templates for the INDENT screen definition, .CMD and .ODL files, and some programmer aids are also included. DECUS number 11-685.

Restrictions: COTREES should be used for the overlays.

Note: Minor modifications are probably needed for RSTS/E V8.0.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## **InterUpt (ISM Universal Programming Tool)**

**PDP-11 Operating System:** DSM (DSM-11)

**PRO Operating System:** MUMPS®

**Keywords:** • Programming tools • Project management  
• Security • Source code control

This programming tool facilitates efficient development of MUMPS systems. The programmer uses InterUpt's various functions to write, edit, and save programs; automatically create routine cross-references, global file cross-references, routine verification, and file link cross-references; and perform routine compare, restore, move, dump, and print operations.

InterUpt also includes a security system, making the Routine Development Utility password controlled. In that way, personnel can be limited to using one or more of the functions in InterUpt. In addition, user levels can be set up so that IDs can have access to routines that are developed at the same or lower level but not to routines developed at higher levels.

Each routine developed using InterUpt is date stamped with the horolog date and the programmer's ID. In that way, routines are easily identified as to the date of last update and the programmer responsible for the update.

Routines can also be given a package name and a program subset within the package. Thus, InterUpt can perform various tasks on a package or on a program subset of the package, given only the name of the package or functional subset.

MUMPS® is a registered trademark of Massachusetts General Hospital.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Robert E. Joerger, Vice President  
(201) 256-7633

INTERACTIVE SYSTEMS AND MANAGEMENT CORP.  
1500 Cardinal Drive  
Little Falls, NJ 07424

## ISIS 80 Continuous System Simulation Program

**PDP-11 Operating System:** RSX, RT-11

**PRO Operating System:** RT-11

**Keywords:** • Debugging • Decision support  
• Modeling/simulation

This interactive continuous system simulation program, developed by Simulation Sciences, incorporates console and hard-copy graphical output. Models and data can be stored in disk files. The system, written in FORTRAN, provides a library of standard functions and subroutines, four integration methods, and a special feature to handle nonlinearities accurately and quickly. A simulation run can be interrupted, results examined, and the run continued or aborted.

A version of this product is available for VAX computers.

**Price:** £450 - £3250

**Contact:** Dr. A. Griffin  
934 838803

SIMULATION SYSTEMS LTD.  
The Gables, North End, Yatton  
Bristol, Avon BS19 4AS England



**KMC11 Tools****PDP-11 Operating System:** RSX**Keywords:** • Assemblers • Debugging  
• Microprocessor development

This software enables a programmer to assemble, load, and debug microprograms for the KMC11-A auxiliary processor. The KMC11 Tools software operates under the RSX-11M operating system.

KMC11 Tools comprise:

- A MACRO-11 prefix file containing the macro definitions of KMC11 instructions. The prefix file is assembled with a file containing customer-written microinstructions in the form of macro calls. The output of the assembler is subsequently linked, using the operating system's task builder to create a KMC11 microprogram image file.
- A utility program to load the writable control memory of a KMC11-A from a KMC11 microprogram image file. The utility program runs as a privileged task under the supporting operating system.
- A utility program to enable a programmer to debug interactively a microprogram running on a KMC11-A. The utility program runs as a privileged task under the supporting operating system and uses the maintenance features of the KMC11-A hardware. The user can examine and modify the contents of the microprocessor internal registers, data memory, and control memory. The user can start, stop, or single-step the microprogram or cause the KMC11-A to execute a single microinstruction from the console. The user can set up to eight breakpoints in the microprogram. If breakpoints are to be used, the 16 highest locations in the KMC11-A control memory must be reserved for the utility program. All addresses and data input and output to the user are in octal.

Refer to SPD #12.49.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$4900

**Contact:** Consult your local DIGITAL sales office (see Introduction).

**KM.SYS — Device Driver for Konelar Extended Memory****PDP-11 Operating System:** CTS-300, RT-11**Keywords:** • Device drivers/handlers • File management  
• File transfer

KM.SYS, a pseudo-device driver for RT-11, uses a portion of Konelar extended memory as a file-structured device. File transfers are immediate, have zero latency delay, and occur at memory-to-memory speed. Konelar memory has built-in memory management that supports up to 64 megabytes on any PDP-11. Konelar memory management neither conflicts with nor is equivalent to DIGITAL memory management. KM.SYS neither uses nor is compatible with the XM version of RT-11. Programs linked with KXMLNK, the Konelar extended memory linker, use extended memory for program segments. Programs

using extended memory for code segments can also use part of extended memory for file space with KM.SYS; that is, KM.SYS and KXMLNK are fully compatible.

A version of this product is available for VAX computers.

**Price:** \$450

**Contact:** Kenneth T. Pruyn  
(617) 275-3939

KONELAR CORP.

P.O. Box 267

Bedford, MA 01730

### **KMV11-A Development Tools**

**PDP-11 Operating System:** RSX

**Keywords:** • Programming tools • Systems communications  
• Telecommunications

This software/firmware package facilitates the development of layered telecommunications protocols in the KMV11-A communications controller. The KMV11-A Development Tools operate under the RSX-11M, RSX-11M-PLUS, and RSX-11S operating systems and should be used by programmers with MACRO-11 skills.

The KMV11-A tools package contains firmware routines written in MACRO-11. The firmware resides in the KMV11-A ROM implementing the communication executive functionality. The ROM-resident firmware consists of the power-up code (root firmware), the communication executive routines, and the self-test routines to detect hardware malfunctions.

INDIRECT command files are included to assist the user in assembling and linking user-developed firmware. Documentation is included.

Refer to SPD #13.41.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$750

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **KSAM (Keyed Sequential Access Method)**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™

**Keywords:** • Data base management • Documentation tools  
• Programming tools

KSAM, a programming package that can be incorporated into application programs, supports sequential and keyed retrieval of data and is designed to help you write programs that require fast access to information. The KSAM package also provides utility programs for maintaining a KSAM-managed data base. A documentation package is included.

p-System™ is a trademark of Pecan Systems, Inc.



**Price:** \$49.95

**Contact:** Eli Willner

(718) 851-3100

PECAN SOFTWARE SYSTEMS, INC.

1410 39th St.

Brooklyn, NY 11218

### **KXMLNK (Konelar Extended Memory Linker)**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Programming tools

KXMLNK is an RT-11 overlay linker for running programs of multimegabyte size on any PDP-11. Conventional overlay structure is used for program segmentation, but program segments are activated by directly switching blocks of memory using memory-management hardware. Processors that do not have standard DIGITAL memory management available require Konelar extended memory with built-in memory management that supports up to 64 megabytes of memory on any PDP-11. KXMLNK supports both types of hardware. KXMLNK does not use, and is not compatible with, the XM version of RT-11.

**Price:** \$495

**Contact:** Kenneth T. Pruyn

(617) 275-3939

KONELAR CORP.

P.O. Box 267

Bedford, MA 01730

### **LASL Cornucopia #1**

**PDP-11 Operating System:** RSX

**Keywords:** • Programming tools • Software utilities

This collection of 37 useful routines includes macros, file builders, integer conversion, searches, MCR tasks, partition mapping, and much, much more. Complete documentation is included in the sources. DECUS number 11-252.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **LIB.FOR Library Routines**

**PDP-11 Operating System:** RT-11

**Keywords:** • CAD/CAM • Language enhancers  
• Programming tools

LIB.FOR is a concatenated series of FORTRAN source modules to be built into the user library, although they can be separated into separate subroutines. SORTR, SORTI, SORTB, and SORTW are similar routines providing rapid sorts of arrays of real numbers, integers, byte ASCII characters, and word ASCII characters (A1), respectively. The routines use the monkey puzzle tree sort technique. SHELL and SHELLR are a pair of relatively fast in-place sort routines for integers

and real numbers, respectively. All sort routines can also be used under DOS.

CAD is a subroutine that implements the CAD function of the VT105 terminal, allowing the program to place the cursor anywhere on the screen. JDATE, KDATE, and LDATE provide manipulation for a Julian date in the same format that DOS uses, which is more useful for many purposes than the standard RT-11 system date word. DECUS number 11-213.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **LINK: FORTRAN-Callable Task Linking**

**PDP-11 Operating System:** RSX

**Keywords:** • Down-line loading • Programming tools

Memory required: INSRUN = 608 words; LINK = 139 words.

"CALL LINK" allows one program to start up another program, which need not be installed. "INSRUN" performs an "INS Y/RUN = REM" on behalf of the calling program.

This program builds and sends a matrix to INSRUN. INSRUN is an installed task and must be privileged. DECUS number 11-358.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **LSI-11 Microprogramming Tools, Version 1.0**

**PDP-11 Operating System:** RT-11

**Keywords:** • Assemblers • Debugging

• Microprocessor development • Programming tools

These tools enable a programmer to assemble, load, and debug microprograms for the Writable Control Store (WCS) option of the LSI-11 (PDP-11/03) central processor. The LSI-11 Microprogramming Tools operate under the RT-11 operating system SJ monitor.

LSI-11 Microprogramming Tools consist of:

- A microassembler that accepts LSI-11 WCS microinstructions as input. The output of the microassembler is an LSI-11 WCS microprogram object file.
- A utility program to load and unload WCS memory of an LSI-11 CPU. The unload operation creates a microprogram object file from the WCS memory contents. The load operation accepts as input a microprogram object file created by either the unload operation or the microassembler.
- A utility that enables a programmer to interactively debug a microprogram on an LSI-11 CPU with WCS. The utility allows the user to specify dump points and to display and modify WCS memory locations symbolically. The utility also supports all the RT-11 ODT utility features for the LSI-11.



- A microprogram object file containing the microcode equivalent of the KEV11 Extended Arithmetic Element. The KEV11 cannot be used on the same CPU as the KUV11 (WCS) option.

Refer to SPD #15.90.02 when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$2010

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **M-CUBED — Multiple Microprocessor MACRO Cross-Assembler**

**PDP-11 Operating System:** RSX

**Keywords:** • Cross-assemblers • Microprocessor development  
• Programming tools • Software utilities

M-CUBED is a low-cost MACRO cross-assembler that targets the 68000 family, the 6800/6801 family, and the 8X305 processors. M-CUBED includes the MDEV support programs, such as MLINK, MOLB, WSA, WSO, SFOR, and SPLIT. MLINK and MOLB allow assembler modules to be linked and to use library files; WSA and WSO allow the user to accept input from the Whitesmiths Pascal and C compilers for the 68000; SFOR generates S-format output; and SPLIT is an object file manager.

The final output can be produced in two formats: a proprietary ASCII format and a Motorola S-format. Output can be directed to link into general-purpose memory banks, as desired, that are equivalent to less powerful DSCT, PSCT, and BSCT definitions in other assemblers. Standard manufacturers' mnemonics are supported for all three processors.

A valuable option to M-CUBED is a low-cost site license for the source code, which can be used to update M-CUBED and the other modules on all the machines located at one site. Manuals are in machine-readable form, available separately, and refundable with the purchase of software.

**Price:** \$1995

**Contact:** Gus Calabrese  
(303) 830-1701

WFT

918 E. 16th Avenue  
Denver, CO 80218

### **M6800/01/05/09 Cross-Software Packages**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Compilers • Cross-compilers  
• Microprocessor development • Programming tools

Wintek's M6800-family Cross-Software Packages allow the rapid development of microcomputer software for the Motorola 6800, 6801, 6805, and 6809. Since these programs are designed to run on minicomputers and mainframes, the user has all the advantages of larger

machines during development, such as powerful editing facilities, large file systems, utility programs, quick response, and multiuser access.

The packages include both macroassemblers and high-level language compilers: 6800/6801, 6805, and 6809 cross-assemblers; 6800 and 6809 PL/W cross-compilers; cross-linker; 6800 and 6801 simulators; and 6800 floating-point, scientific subroutine package.

- The cross-assemblers are normal, 2-pass assemblers that use most of the standard Motorola instruction mnemonics and directives. Both macros and conditional assembly are supported. The assemblers accept free-format input and produce formatted output with line and page numbers, titles, and subtitles. Error messages are in English and point to the character in error. The output listings include both an alphabetized symbol table and a cross-reference map for all symbols. The assemblers can produce either absolute object code in Motorola's S0-S1-S9 format or relocatable object code for use with the cross-linker.
- PL/W is a high-level language patterned after PL/I and is very close to Intel's microcomputer language PL/M. Wintek's PL/W is a block-structured language that supports the control features required for structured programming, such as procedures, functions, IF-THEN-ELSE, DO CASE, DO WHILE, iterative DO, and more. Variable names can contain up to 31 characters. The compilers produce formatted source listings and relocatable object code.
- The cross-linker links and relocates separately compiled and assembled relocatable routines, producing a single program in Motorola's S0-S1-S9 format.
- The 6800 and 6801 simulators provide a way to test small programs without using a 6800 system.
- The floating-point and scientific subroutine package is written in 6800 assembly language and can be linked to modules produced by the 6800 cross-assembler and 6800 PL/W. The packaged routines perform addition, subtraction, multiplication, division, logarithms, exponentiation, square root, SIN, COS, TAN, ARCSIN, ARCCOS, ARCTAN, SINH, COSH, and TANH.

A version of this product is available for VAX computers.

**Price:** \$1000 - \$3400

**Contact:** Mark Corzine or Steve Belter  
(317) 742-8428  
WINTEK CORP.  
1801 South Street  
Lafayette, IN 47904-2993

## MACDBG-RT

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Microprocessor development

This software development/debugging tool is for dedicated microcomputer applications in which the application hardware does not include



mass storage. MACDBG supports development/debugging of MACRO-11 code only.

A user first creates and partially debugs the application software on a host RT-11 operating system, using the facilities provided with RT-11. MACDBG-RT can then be used to down-line load that application software into the target application system, using a serial link from the host system to the console port of the target processor. MACDBG-RT can be used to debug and to control the execution of the application software in the target system.

Refer to SPD #12.58.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$250

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **MACRO-11 Input/Output Macro Subroutines Library**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion • Programming tools  
• Software utilities

Memory required: 6144KW.

This package creates an RT-11 MACRO-11 macro subroutine library. Some of the subroutines will clear the terminal's input ring buffer, convert decimal ASCII text strings to binary integers and vice versa, and convert a binary integer to an octal or decimal ASCII text string and print the string to the terminal. The package will also convert an ASCII format to a RAD50 format string and effect an efficient save-and-restore registers 0-5 routine. The subroutines program source files should be examined for the details and operation of each subroutine. DECUS number 11-651.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MACRO Library Macros for MACRO-11 Program Development and Debug**

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Programming tools  
• Software utilities

This collection of macros that can be added to the system macro library to be used with MACRO-11 programs includes the following:

- PUSH, POP to store and retrieve registers R0 to R5
- BINDIS, BINDNR to display numbers in binary on the TT
- OCTDIS, OCTDNR to display numbers in octal on the TT
- DECDIS, DECDNR to display numbers in decimal on the TT
- HEXDIS, HEXDNR to display numbers in hexadecimal on the TT
- TTYO to display a string of ASCII characters

The program BASE.MAC shows how to use those macros in a program and displays the equivalent value of a number in all four bases. DECUS number 11-533.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **MACSYS-RT (MACRO-11 Development System Software)**

**PDP-11 Operating System:** None required

**Keywords:** • Debugging • Microprocessor development  
• Programming tools

This microcomputer software development environment for the MACRO-11 programmer is packaged with 11MDS hardware. MACSYS-RT consists of MACDBG-RT, a remote debugger for MACRO-11 programmers, and the RT-11 operating system.

MACSYS-RT can be installed using the RT-11 and MACDBG-RT customer installation instructions. RT-11 must be installed with the options identified in the MACDBG-RT installation procedure. With the facilities available under this monitor, the user can develop application programs in MACRO-11. For target applications that do not use RT, the user can link the target application hardware to the 11MDS system through a serial link and use MACDBG-RT to down-line load and test application software in the target environment.

RT-11 provides a disk-based, single-use, real-time operating system designed for interactive program development or on-line applications. RT-11 supports single-job (SJ), foreground/background (FB), and extended-memory (XM) modes of processing. RT-11 minimizes system requirements in the CPU and on the mass-storage device, while maximizing system throughput.

MACDBG-RT is an RT-11-layered software development/debugging tool for MACRO-11 users. MACDBG-RT enables programmers who have developed applications in the MACRO-11 language on a host RT-11 system to down-line load the application software across a serial line into the target system and to test/debug and control the execution of target system from the host system. That is useful primarily for applications without mass storage.

Refer to SPD #12.61.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$410

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **M/APS (Menu/Authorization Processor System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer operations • Menu handlers  
• Programming tools • Security

This system allows automatic creation of user-oriented application menus and controls user access to both menus and the specific application programs. M/APS offers the ability to add and modify menus through on-line entry and security through the ability to specify which users can gain access to individual applications and programs. The system monitors and warns when any illegal access is attempted and



aborted, prevents access to the monitor level, limits display to only those items available to the user, and traces user movement through the menu system.

M/APS denies access or use of sensitive data to unauthorized users, provides relatively easy access for authorized users, and logs usage and detects illegitimate penetration.

A user installation/instruction guide is included.

A version of this product is available for VAX computers.

**Price:** \$1500

**Contact:** Neal J. Anderson, Senior Product Specialist  
(414) 784-8250

MCHUGH, FREEMAN AND ASSOCIATES, INC.  
1135 Legion Drive, P.O. Box 454  
Elm Grove, WI 53122

### MathStat Library

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**Keywords:** • Mathematics • Software utilities • Statistics

This software offers more than 130 subroutines performing matrix operations and statistical and mathematical functions. The library has bindings to FORTRAN, Pascal, and C. Routines are intended for use in applications programs and are I/O independent. Test routines, exercisers, and test data files are also provided. Matrix data storage and operations are compacted for diagonal and triangular matrixes.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Fred Ross  
(505) 524-2154

TECHNICAL SOLUTIONS, INC.  
P.O. Box 1148  
Mesilla Park, NM 88047

### Matrix Routines

**PDP-11 Operating System:** RT-11

**Keywords:** • Calculation aids • Mathematics  
• Software utilities

Memory required: 16K.

The BASIC routines MATADD, MATSUB, MATMUL, and MATIN perform the fundamental operations of matrix manipulation and would probably be most useful as subroutines in larger programs. MATSOL uses a matrix-inversion subroutine to solve sets of simultaneous linear equations. MATPAK, a series of chained programs providing a comprehensive package for matrix manipulation, should be

useful to anyone who deals with matrix algebra but does not have MAT functions available. DECUS number 11-254.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### Matrix Subroutines

**PDP-11 Operating System:** RT-11

**Keywords:** • Calculation aids • Mathematics  
• Software utilities

Memory required: 12,392 bytes.

Seventeen FORTRAN subroutines have been prepared for the more common matrix operations. Matrix multiplication is available for the products A.B., A .B, A.B . Singular-value decomposition and generalized inversion are provided. The subroutine MXTRAP transposes the elements of A(M,N) within the same storage space. DECUS number 11-471.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### MDBS III

**PDP-11 Operating System:** XENIX™

**Keywords:** • Data base management • Data dictionary  
• Query facilities • Report writer

This data base management system supports simple, direct representation of complex data relationships and permits easy specification of relational, hierarchical, and CODASYL networks. MDBS III can be interfaced to numerous host languages, including BASIC, FORTRAN, COBOL, Pascal, PL/1, C, and KnowledgeMan. Multiuser and local area network versions are available for certain environments. Three-fold security provisions include password checking, read- and write-access controls, and data encryption. Data compression and range checking are supported.

The data description language (DDL) allows the developer to specify the structure and contents of the data base. The data management system (DMS) executes the data manipulation language (DML) specified by the application developer. A standard buffer-flushing facility substantially reduces the chance of data loss in the event of abnormal interruptions. An extensive automatic recovery and transaction-logging (RTL) feature, which prevents data loss due to media/power failures and other abnormal system interruptions, is also available. Rollback and selective recovery are supported through page-image posting and transaction logging.

An interactive version of the DML (IDML) enables nonprogrammers to interactively specify DML commands to create, modify, and access an MDBS III data base. A nonprocedural English-like query and retrieval system (QRS) permits ad hoc report generation from an MDBS III data base. The report definition language (RDL) is optionally available to



permit a comprehensive specification of report formats. The design modification utility (DMU) allows users to modify and expand a data base.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** MDBS III Marketing Representative  
(312) 981-9200

MICRO DATA BASE SYSTEMS, INC.  
85 W. Algonquin Road, Suite 400  
Arlington Heights, IL 60005

## Memory Dump

**PDP-11 Operating System:** Micro/RXS, RSX

**Keywords:** • Programming tools • Software utilities

This utility allows a programmer to dump a specific memory partition to a device in any of a number of formats. All of the formats available for the DIGITAL-supplied utility DMP are available for the Memory Dump utility.

**Price:** \$99 - \$299

**Contact:** Sandra K. Graham  
(617) 894-3278

ADVANCED COMPUTER SYSTEMS, INC.  
250 Prospect Street  
Waltham, MA 02154

## MENU-11/RSTS

**PDP-11 Operating System:** RSTS

**Keywords:** • Menu handlers • Office systems  
• Programming tools • Security

MENU-11/RSTS enables the RSTS applications developer or the RSTS system manager to present a simple menu-driven interface to the user on a video terminal for both system and application functions. MENU-11/RSTS accepts and executes commands related to the menu items to perform specific functions, without extensive user training in the details of the RSTS operating system.

Three types of commands provide screen formatting, program execution, and security access. Those commands allow the developer to format the menu screen for the user's terminal and to control the interfacing of the user with the system.

Refer to SPD #12.60.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$80 - \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## THE MENU SYSTEM

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Menu handlers • Programming tools

This user-friendly system allows designers to build menus in front of XENIX, or any program running under XENIX, without learning a programming language or data file format. The end user is presented with a menu offering numbered choices. One keystroke executes the most complex program. The terminal-independent system provides three levels of help and a tutorial mode that can be used to learn XENIX on any program.

A version of this product is available for VAX computers.

**Price:** \$250 - \$1000

**Contact:** David Schneider  
(201) 447-3901

SOFTEST

555 Goffle Road  
Ridgewood, NJ 07450

## MENU/E

**PDP-11 Operating System:** RSTS

**Keywords:** • Menu handlers

This software allows users to generate free-format menus by creating a table of codes and the functions associated with the codes. The programs are invoked when an operator specifies the options. After the program terminates, the menu is redisplayed.

Menu options invoke either programs or system commands. Both are transparent to the operator. Several help menus are provided for system functions.

**Price:** \$395

**Contact:** David M. Pollack, President  
(914) 423-3623

ADL DATA SYSTEMS, INC.  
50 Stratton Street South  
Yonkers, NY 10701

## Micro-Master Data Base Applications Generator

**PDP-11 Operating System:** Micro/RXS, RSX, ULTRIX-11

**PRO Operating System:** P/OS

**Keywords:** • Application development • Data base management  
• Data dictionary • Programming tools

Memory required: 512K.

This data base applications generator allows users and systems analysts to develop applications much more quickly than with traditional or fourth-generation languages. No programming is required to develop personal, departmental, and corporate data base applications.



The intelligent, interactive windows environment reduces programming backlogs.

A version of this product is available for VAX computers.

**Price:** \$1000 - \$20,000

**Contact:** Geoff Brown  
(416) 858-8132

HI-TEC

60 Bloor Street West

Toronto, Ontario M4W 3B8 Canada

### **MICRO.BAS: 8080-Based Microcomputer Simulator**

**PDP-11 Operating System:** RSTS

**Keywords:** • Microprocessor development • Modeling/simulation

Memory required: 16K user area.

Simulating a microcomputer based on the Intel 8080, MICRO.BAS loads and runs programs that are in the Intel hex format, such as those produced by 8080.BAS, DECUS number 11-184. In addition to loading and running programs, the following features are provided:

- The user can dump or alter any or all of user storage (32K) and all the user registers, as well as the PC, SP, and status bits.
- A section of memory can be output in the Intel hex format.
- The user can enable a register trace that dumps the contents of the user registers prior to the execution of each instruction.
- The user can set a simulated switch register that is read under program control.
- The user can print or alter a counter indicating the number of machine cycles that have elapsed.

DECUS number 11-276.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Microbench 6800 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers

• Microprocessor development • Programming tools

These programs support application development for the Motorola 6800 through 6803 microprocessors. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench 6800 assembler language closely parallels that defined by Motorola.

The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object files libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is also available for native-mode operation on the VAX and MicroVAX.

Microbench 6800 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench 6800 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$1900 - \$2900

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench 68000 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

These programs support application development for the Motorola 68000 microprocessor. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench 68000 assembler language closely parallels that defined by Motorola.



The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object file libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is also available for native-mode operation on the VAX and MicroVAX.

Microbench 68000 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench 68000 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$2200 - \$3200

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench 6805 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

These programs support application development for the Motorola 6805 microprocessors. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench 6805 assembler language closely parallels that defined by Motorola.

The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object files libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is also available for native-mode operation on the VAX and MicroVAX.

Microbench 6805 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench 6805 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$1900 - \$2900

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench 6809 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

These programs support application development for the Motorola 6809 microprocessor. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench 6809 assembler language closely parallels that defined by Motorola.



The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object files libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is also available for native-mode operation on the VAX and MicroVAX.

Microbench 6809 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench 6809 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$1900 - \$2900

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench 8021/8035/8048/8748 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

This series of programs supports application development for the Intel 8048 series microprocessors. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench 8035/8048/8748 assembler language closely parallels that defined by Motorola.

The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object files libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is also available for native-mode operation on the VAX and MicroVAX.

Microbench 8035/8048/8748 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench 8035/8048/8748 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$1900 - \$2900

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.

1500 Newell Avenue, Suite 406

Walnut Creek, CA 94596

### **Microbench 8051 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

These programs support application development for the Intel 8051/8351/8751 series microprocessors. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench 8051 assembler language closely parallels that defined by Intel.



The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object files libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is also available for native-mode operation on the VAX and MicroVAX.

Microbench 8051 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench 8051 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$1900 - \$2900

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
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### **Microbench 8080/8085 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

This series of programs supports application development for the Intel 8080 and 8085 microprocessors. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench 8080/8085 assembler language closely parallels that defined by Intel.

The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object files libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is also available for native-mode operation on the VAX and MicroVAX.

Microbench 8080/8085 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench 8080/8085 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$1900 - \$2900

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench 8086/8087/8088 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

This series of programs supports application development for the Intel 8086, 8087, 8088, and 80186/80188 microprocessors. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The assembler language defined is a superset of our 8080/8085 cross-



assembler, with op code and operand formats similar to those defined by Intel for the 8086/8087/8088.

The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object files libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is available for native-mode operation on the VAX and MicroVAX.

Microbench 8086/8088 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench 8086/8088 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$2200 - \$3200

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94598

### **Microbench C Cross-Compiler for the Intel 8086/8087/8088**

**PDP-11 Operating System:** RSX, ULTRIX-11

**Keywords:** • Application development • Compilers  
• Programming tools • Translators

This compiler provides a comprehensive and economical program development system for the Intel 8086 family of microprocessors. The compiler operates on PDP-11, LSI-11, MicroVAX, and VAX computers. Software distributions are tailored for each operating system, thereby minimizing installation time and expense.

The C language recognized by the compiler conforms to the Kernighan and Ritchie standard for C compilation. The run-time library provided with C operates with Intel 8086-family microprocessors to support the

execution of C applications under PC-DOS and MS-DOS, using the standard UNIX\* interface. Other operating systems can be supported by modifying the C library.

The C compiler incorporates a preprocessor phase, a syntax analyzer phase, a code optimization phase, and a code generator phase. The preprocessor performs macro substitution, conditional code block selection, and preliminary syntax analysis. The syntax analyzer completes the analysis and produces a dense intermediate language. The optimization phase generates data declarations and rearranges intermediate code blocks for more optimal code generation. Finally, the code generator converts the intermediate language into assembly language for the Intel 8086. Optionally, 8087 floating-point instruction can be generated instead of 8086 subroutine calls. Assembly and linking facilities are provided by the Microbench 8086/8088 Cross-Assembly Package or by the PC-DOS macro assembler/linker.

C application programs can occupy up to one megabyte of storage (large model). For dedicated applications, programs can be stored in ROM, with RAM used for variable storage. All run-time support routines are reentrant so that multitasking can be supported.

The compiler also provides separate compilations to support libraries and modular program development, 16- and 32-bit integer arithmetic, 32- and 64-bit floating-point (8087-compatible) format, ROM/RAM allocation control, extensive local code optimization, assembly language procedures, and a modular operating system interface. The compiler provides code sequences that are efficient in terms of both memory usage and execution speed. The C compiler is coded in C and is self-compiling.

Microbench C software is distributed under a perpetual license and includes two sets of manuals and a 1-year maintenance/update service. Additional manuals can be purchased separately.

A version of this product is available for VAX computers.

**Price:** \$2250 - \$2750

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench FORTRAN-77 Cross-Compiler for the Intel 8086/8088**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-compilers  
• Programming tools • Translators

This package consists of a FORTRAN-77 compiler and 8086/8088 run-time routines to support application development for the Intel 8086 and 8088 microprocessors. The compiler operates on PDP-11, LSI-11,



and VAX computers to provide an economical program development facility. The run-time library provided with the compiler operates with Intel 8086/8088 microprocessors to support the execution of FORTRAN applications. The run-time library is provided in two forms: one uses the Intel 8087, and the other simulates the 8087 through 8086 software support.

The FORTRAN language recognized by the compiler conforms to ANSI Standard (X3.9-1978) at the official subset level. FORTRAN-77 has been approved by the Department of Defense as a programming language for DOD systems. Language extensions have been added to support ROM/RAM memory environments and the full addressing capabilities of the 8086/8088.

The FORTRAN compiler translates FORTRAN programs into 8086/8088 assembly language statements. Those statements are assembled, linked with subprograms and run-time support routines, and down-loaded to an 8086/8088 for execution. For dedicated applications, programs can be stored in PROM, with RAM used for variable data storage. Assembly, linkage, and down-loading facilities are provided by the Microbench 8086/8088 cross-assembly system, also available from Virtual Systems.

Microbench FORTRAN-77 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench FORTRAN-77 software can be purchased by special order. Source programs for the run-time library can be purchased by FORTRAN-77 licensees.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$3000

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench Pascal Cross-Compiler for the Intel 8086/8088**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-compilers  
• Microprocessor development • Translators

This package consists of a Pascal compiler and standard run-time procedures to support application development for the Intel 8086 and 8088 microprocessors. The compiler operates on PDP-11, LSI-11, and VAX computers to provide an economical program development facility. The run-time library provided with the compiler operates with Intel 8086/8088 microprocessors to support the execution of Pascal applications.

The Pascal language recognized by the compiler conforms to the proposed ISO standard for Pascal (March 1980). Language extensions have been added to support separate module compilations. Support for ROM/RAM memory environments and the extended address space of the 8086/8088 is also included.

The Pascal compiler first translates Pascal programs into a very dense intermediate language form. Next, extensive optimization of the intermediate form is performed. The intermediate language is then translated to assembly language statements for the 8086/8088. Those statements are assembled, linked with subprograms and run-time support routines, and down-loaded to an 8086/8088 for execution or passed to the Microbench 8086 simulator.

All run-time support routines are reentrant so that multitasking can be supported. For dedicated applications, programs can be stored in ROM, with RAM used for variable storage. Assembly, linkage, and down-loading facilities are provided by the prerequisite Microbench 8086/8088 cross-assembly system, also provided by Virtual Systems.

Microbench Pascal software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Source programs for the run-time library can be purchased by Pascal licensees.

A version of this product is available for VAX computers.

**Price:** \$1750 – \$2750

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench Simulators for the Zilog Z80, Intel 8080, and Intel 8086**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Debugging • Microprocessor development  
• Modeling/simulation

These simulators provide a complete microprocessor development system that includes up to one megabyte of memory and that can simulate virtually any hardware environment, including interrupts. The simulators operate on PDP-11, LSI-11, and VAX computers.

You direct the execution of your program with the simulator from your terminal, controlling the contents of memory and the CPU registers at all times. You use the trace and breakpoint features to follow the exact progress of your program. The Microbench simulators enable you to run and debug your programs long before they reach the target microprocessor system.

Object files in standard Intel hexadecimal format — produced by Microbench cross-assemblers and cross-compilers — can be loaded into



simulator memory. Any portion of the program can then be executed with or without breakpoints. The simulators allow you to assemble and load assembly language statements entered at the console. Memory locations and internal registers can be displayed for examination or alteration.

Each simulator provides 16 relocation constants, a trace feature, cycle count, and I/O and memory map routines that can be modified to simulate any operating environment. Upon exit, the contents of the registers and relocation constants are saved. In addition, the Intel 8080 and 8086 simulators allow symbolic names to be displayed or deleted.

Microbench simulator software is distributed with a license and includes two sets of reference manuals and a 1-year software maintenance/update service. The reference manuals describe the operation of the Microbench simulators and can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$1400 - \$2400

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **Microbench Z80 Cross-Assembly Package**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

These programs support application development for the Zilog Z80 microprocessor. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench Z80 assembler language closely parallels that defined by Zilog.

The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. The library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.

The librarian provides facilities to create and maintain object file libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to

list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency. A version coded in VAX-11 MACRO is also available for native-mode operation on the VAX and MicroVAX.

Microbench Z80 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench Z80 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$1900 - \$2900

**Contact:** Ralph W. Swearingen  
(415) 934-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### Microbench Z8000 Cross-Assembly Package

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Application development • Cross-assemblers  
• Microprocessor development • Programming tools

These programs support application development for the Zilog Z8000 microprocessor. The programs operate on PDP-11, LSI-11, and VAX computers to provide an economical program development facility. Both segmented (8001) and unsegmented (8002) versions of the Z8000 are supported.

The software includes a relocating assembler, a linking loader, a librarian, and a down-loader. The assembler supports extensive macro and conditional assembly capabilities, cross-reference listings, floating-point data types, local symbols, and a system macro library. The Microbench Z8000 assembler language closely parallels that defined by Zilog.

The linking loader links separately assembled object modules, resolves external references, and translates relocatable addresses to their absolute values. Linker directives are provided to define start addresses for code (ROM) and data (RAM) segments. Library files produced by the librarian can be used to supply code or data required to resolve external references. Only the modules in the library files that satisfy outstanding external references will be linked.



The librarian provides facilities to create and maintain object file libraries. Object modules can be combined into a library file and subsequently updated or deleted, as required. Facilities are also provided to list the directory of all modules in a library file and the external symbols contained in each.

The down-loader reformats an absolute binary program produced by the linker into any of a variety of formats compatible with popular PROM programmers and emulation systems.

The assembler, linker, and librarian are coded in PDP-11 assembly language for high throughput and memory efficiency.

Microbench Z8000 software is distributed under a perpetual license and includes two sets of reference manuals and a 1-year software maintenance/update service. Additional reference manuals describing the operation of the Microbench Z8000 program development software can be purchased by special order.

A version of this product is available for VAX computers.

**Price:** \$2200 - \$3200

**Contact:** Ralph W. Swearingen  
(415) 935-4944

VIRTUAL SYSTEMS, INC.  
1500 Newell Avenue, Suite 406  
Walnut Creek, CA 94596

### **MicroPower/Pascal-Micro/RSX**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • Compilers • Debugging  
• Microprocessor development • Software utilities

This Micro/RSX layered product belongs to the MicroPower/Pascal product family. MicroPower/Pascal, a modular executive and software development package for PDP-11 (Q-bus)-based microcomputer applications, includes software components to create, build, and debug/test concurrent real-time application software running stand alone on a target run-time microcomputer system.

MicroPower/Pascal is offered in various packaging options according to the required host development system. MicroPower/Pascal-Micro/RSX requires Micro/RSX host development systems.

Refer to SPD #18.24.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$1000

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **MicroPower/Pascal-RSX**

**PDP-11 Operating System:** RSX

**Keywords:** • Compilers • Debugging • Device drivers/handlers  
• Microprocessor development

MicroPower/Pascal-RSX is an RSX-11M/M-PLUS layered product in the MicroPower/Pascal product family. MicroPower/Pascal is a modular executive and software development package for PDP-11 (Q-bus)-based microcomputer applications. It includes software components needed to create, build, and debug/test concurrent real-time application software running stand alone on a target run-time microcomputer system. MicroPower/Pascal is offered in various packaging options according to the host development system required.

MicroPower/Pascal-RSX supports application software development using a host RSX development system and a target PDP-11 (Q-bus only) run-time system for the microcomputer application. The application software is created and linked with the appropriate MicroPower/Pascal run-time software components on the host development system. The application software is transported to the target run-time system for debugging/testing and execution. Software execution can be controlled and tracked from the host with the MicroPower/Pascal-RSX debugging tools if a serial line is connected between the host development system and the console port of the target run-time system. The separation of the host development system from the target run-time system allows the user to use a high-performance host development system and to test the application software in the target run-time environment.

The package includes MicroPower/Pascal-RSX installation verification command procedures; host development system software components: an extended Pascal compiler, the PASDBG Pascal symbolic debugger, MicroPower/Pascal-RSX utilities, and the MPBUILD application-building command procedure; and MicroPower/Pascal target run-time system software: a modular real-time executive, target run-time device handlers, an RT-11-compatible file system, timer services (clock process), and a Pascal object time system (OTS) for the target.

An extended version of Pascal is provided as the system implementation language suitable for most user applications. The extensions in the language enable the user to write real-time applications entirely in Pascal; however, MACRO-11 can also be used as the implementation language for sections of code.

Refer to SPD #14.83.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$1500

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **MicroPower/Pascal-RT**

**PDP-11 Operating System:** RT-11

**Keywords:** • Application development • Debugging  
• Microprocessor development • Real time

This modular executive and microcomputer software development toolset for PDP-11 (Q-bus)-based microcomputer applications



includes all components needed to create, build, and debug/test concurrent real-time application software running stand alone on a target run-time microcomputer system. MicroPower/Pascal-RT supports application software development, using a host PDP-11 (Q-bus or UNIBUS) development system and a target PDP-11 (Q-bus only) run-time system for the microcomputer application.

The application software is created and linked with the appropriate MicroPower/Pascal-RT run-time software components on the host development system. MicroPower/Pascal-RT provides all the host development system software components needed for that step. When the application software is ready for debugging/testing, it is transported to the target run-time system. The application software can then be executed in the target run-time system. If a serial line is connected between the host development system and the console port of the target run-time system, the execution of the application software in the target can be controlled and tracked from the host with the help of the debugging tools provided in MicroPower/Pascal-RT. The separation of the host development system from the target run-time system allows the user to use a high-performance host development system and to test the application software in the target run-time environment.

Refer to SPD #19.12.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for the VAX computer.

**Price:** \$500

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Micro/RSTS FORTRAN-77 DEBUG**

**PDP-11 Operating System:** Micro/RSTS

**Keywords:** • Debugging • Microprocessor development  
• Programming tools

This fully symbolic debugger for FORTRAN-77 and MACRO-11 is used to locate programming errors in successfully compiled programs that behave abnormally when executed. Micro/RSTS FORTRAN-77 DEBUG runs as a 2-task debugger. A small portion of the code, necessary to debug applications, is linked with the user task, and the major portion of the debugger runs as a separate task.

Micro/RSTS FORTRAN-77 DEBUG provides access to program symbols by reading the symbol table file produced by the task builder. Micro/RSTS FORTRAN-77 DEBUG can understand symbols produced by Micro/RSTS FORTRAN-77 and MACRO-11.

This debugger features:

- DEPOSIT and EXAMINE of all data types supported by Micro/RSTS FORTRAN-77 (except virtual array elements)

- Full tracepoint and breakpoint functionality for monitoring the execution of user applications, including the ability to delay the activation of a tracepoint or a breakpoint and the ability to specify an action on encountering a tracepoint or a breakpoint
- Control of execution, using STEP by LINE or INSTRUCTION, STEP INTO or OVER routines, and the GO command
- Computation of the value of source language expressions or of address expressions using the EVALUATE command
- Full support for overlaid code, including the ability to set tracepoint and breakpoint on locations not currently resident
- Ability to drive a debugging session using indirect command files and to record the results of a debugging session by command logging
- On-line help that allows the user to receive information about the commands accepted by Micro/RSTS FORTRAN-77 DEBUG during a debugging session

Refer to SPD #18.11.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$300

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Micro/R SX FORTRAN-77 DEBUG**

**PDP-11 Operating System:** Micro/R SX

**Keywords:** • Debugging • Language enhancers  
• Microprocessor development • Programming tools

This fully symbolic debugger for FORTRAN-77 and MACRO-11 running on the Micro/R SX operating system aids in locating programming errors in successfully compiled programs that behave abnormally. Micro/R SX FORTRAN-77 DEBUG runs as a 2-task debugger. A small portion of the code, necessary to debug applications, is linked with the user task, and the major portion of the debugger runs as a separate task. Micro/R SX FORTRAN-77 DEBUG provides access to program symbols by reading the symbol table file produced by the task builder on the Micro/R SX operating system. Micro/R SX FORTRAN-77 DEBUG can understand symbols produced by Micro/R SX FORTRAN-77 and MACRO-11.

Micro/R SX FORTRAN-77 DEBUG includes the following features:

- DEPOSIT and EXAMINE of all data types supported by Micro/R SX FORTRAN-77 (except virtual array elements).
- Full tracepoint and breakpoint functionality for monitoring the execution of user applications, as well as the ability to delay the activation of a tracepoint or breakpoint until after it has been encountered a specified number of times, and the ability to specify an action when encountering a tracepoint or breakpoint.
- Control of execution, using STEP by LINE or INSTRUCTION, STEP INTO routines or OVER routines, and the GO command.
- Computation of the value of source language expressions or of address expressions, using the EVALUATE command.



- Full support for overlaid code, including the ability to set tracepoints and breakpoints on locations not currently resident. Micro/RXS FORTRAN-77 DEBUG can distinguish multiple copies of modules located at different points in the overlay structure.
- The ability to drive a debugging session using indirect command files and to record the results of a debugging session by command logging. Micro/RXS FORTRAN-77 DEBUG can be used interactively or in batch mode.
- On-line help that allows the user to receive information about the commands accepted by Micro/RXS FORTRAN-77 DEBUG during a debugging session.

Refer to SPD #14.79.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$140 – \$300

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## MIRA

**PDP-11 Operating System:** Independent

**Keywords:** • Application development • Programming tools  
• Translators

**Memory required:** 100KB.

MIRA is a computer-aided software engineering tool used in the integrated design of batch or interactive software products in Pascal, C, or Ada during product development and evolution. The user specifies the structure of, and the error recovery mechanism for, the software product by means of a formal language. MIRA controls this specification and generates the corresponding part of the software product. The functions to be executed (semantics) are integrated in this formal specification locally and in a modular way by means of a high-level programming language (Pascal, C, or Ada). The MIRA system automatically generates the corresponding program and the documentation.

MIRA imposes on software engineers and designers a sound design methodology to develop software in a structured, hierarchical, modular, and integrated way, leading to an increase in the productivity of software developers and the quality and reliability of software systems. MIRA can be used for the development of application program generators, application software, system software and utilities, profilers, timers and tracer for test purposes, pre- and postprocessors, compilers, interpreters, cross-compilers, command-interpreters, menu handlers, query facilities, and the definition of new, special-purpose and user-friendly languages.

Support for MIRA is available, as well as for the development of the first products made with MIRA. MIRA is written in ISO-Pascal.

A version of this product is available for VAX computers.

**Price:** \$20,000 – \$50,000

**Contact:** Joost Cardoen/Jacques Dewulf  
32/(91) 21 03 83 or 84 or Telex: 12570 exsoft b  
EXPERT SOFTWARE SYSTEMS N.V.  
Moutstraat 100  
Ghent B-9000 Belgium

### **Motorola 68000/10 Cross- and Resident Assembler**

**PDP-11 Operating System:** RSX

**Keywords:** • Assemblers • Cross-assemblers  
• Microprocessor development • Programming tools

This system, developed by Green Hills, gives the professional software developer a powerful tool for generating M68000 programs and consists of a macro assembler, a linker, a librarian, and a cross-reference utility. The system assembles and links Motorola 68000 assembly language instructions to form executable program images for an M68000 environment. The assembly system can be run in cross-mode on a host system to generate executable code for a target M68000 micro or in resident mode for use as the system's standard assembler/linker. The macro assembler is EXORMACS compatible, and the linker's executable load module's output conforms to Motorola's S-record format. The OASYS OBJCON utility can convert to several other load module formats. The assembler is compatible with Whitesmiths, Green Hills, Software, and Pacer systems and with C, Pascal, and FORTRAN compilers.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht  
(617) 491-4180

OASYS  
60 Aberdeen Avenue  
Cambridge, MA 02138

### **MTK-II Multi-Tasking Kernel**

**PDP-11 Operating System:** RT-11

**Keywords:** • Microprocessor development

This multitasking kernel is small, fast, and easy to integrate into special-purpose microprocessor systems. Invaluable as a tool for the systems integrator to develop multiple real-time software tasks in a microprocessor-based product, the MTK-II is completely documented and fully tested. In source assembly for the 68000, 8086, 8088, 8085, Z80, 6502, 6800, and 6809, the MTK-II is a fully ROMable product.

**Price:** \$250

**Contact:** Donald L. Dunstan  
(503) 645-5043



UNITED STATES SOFTWARE CORP.  
5470 N.W. Innisbrook Place  
Portland, OR 97229

### **MUMBS-11 Library Tape**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Documentation tools • Mapping  
• Programming tools • Software utilities

This library package consists of the following contributions:

- MUMPS utilities: Directory list (%DL), string of part number search (%SR), program save (%SP), program restore (%PR), program kill (%PK), program compare (%CM), program list (%LP), assign sequential disk processor (%AA, %A), and global utilization (%JJ).
- Enlarged-character printing utility: Accepts an ASCII string up to 132 characters in length and reproduces each character up to 12.5 inches in height on the user-assigned device.
- RENUMBERER: Used with the program editor to facilitate the writing of MUMPS programs. The code resides in a global and is executed from the variable space, using the loaded program as data. The utility is called much like the editor, D%R. The RENUMBERER uses the new features of Version 4 and will not run on Version 3.
- VT55 plotting utility: Supports the graphics capability of the VT55 terminal, including the ability to display two graphs of 512 points each as either curves or histograms. In addition, routines are provided to use the VT55's cursor and grid line capability.
- MUMBS-11 program documentor: Aids in the creation of programs and GLOBAL documentation. The package includes an editor for input and correction of free-text entries in a structured format appropriate to program documentation. Output routines print an index of the documentation and properly formatted output. The package starts at routing DDD and is very interactive, including self-help capabilities. The editor operation mimics the MUMPS function of WRITE, ERASE, and MODIFY.

DECUS number 11-SP-4.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **ODTV09: RT-11 Debugging Tool**

**PDP-11 Operating System:** RT-11

**Keywords:** • Application development • Debugging

Memory required: 4.6KW.

An expansion of ODT, ODTV09 uses the system terminal or an auxiliary to display 35 application program symbol values and the GPRs R0 to R5 at program breakpoints. Data is encoded to octal/decimal/hex according to user option. The program creates a user file of AP symbols and searches the link map for their addresses. Nonglobal symbols can be entered by prompts. Repeat debug sessions input stored files and update addresses. The symbol file is altered on command. The display

format is 3 columns of 12 rows, spaced for clarity. Each column contains the symbol, value, and high and low byte values. Two additional rows display R0 through R5.

A dynamic mode allows the AP to run without interruption, updating the display through the LTC. The user can SET/CLR symbol locations or transfer integer values by an accumulator "on the fly." A timed blink cycle monitors AP flag (set/clr) conditions. Single-keystroke control of 10 global flags for use in debugging is provided. Global breakpoint and relocation registers enable preload at startup for repetitive sessions. The program assembles with or without EIS. The display up-date period is approximately 1 second at 9600 baud. DECUS number 11-761.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Pascal-2™ Cross-Compiler to Target 68K with Concurrency Package**

**PDP-11 Operating System:** RSX

**Keywords:** • Cross-compilers • Engineering  
• Programming tools • Signal processing

This cross-compiler allows development of programs for the MC68000™ from PDP-11 or VAX environments. The cross-compiler generates object files, using the Motorola S-record format, which can be linked and run under the VERSAdos™ operating system or in stand-alone mode by means of a special support library, supplied as part of the concurrent programming option. The cross-compiler generates extremely small and fast code. The package includes XFR, a utility that transfers object, text, or other files in either direction between the host system and VERSAdos.

Operating in five phases, the cross-compiler uses virtual-memory techniques to allow compilation of large programs. Optimizations include global register allocation, constant folding, dead-code elimination, short-circuit evaluation, expression targeting, array index simplification, and common subexpression elimination.

Documentation consists of the *Pascal-2 User Manual* and the textbooks *Programming in Pascal* and *Pascal User Manual and Report*. Software support (renewable) is included for one year from purchase.

An optional concurrent programming package provides concurrent programming in standard Pascal and allows user programs to run without an operating system on the MC68000. A cross-linker/assembler is also available.

MC68000™ and VERSAdos™ are trademarks of Motorola, Inc.

A version of this product is available for VAX computers.

**Price:** \$6300 - \$7500

**Contact:** Sales Department

(503) 245-2202



OREGON SOFTWARE  
6915 S.W. Macadam Avenue  
Portland, OR 97219

### **Pascal Formatter**

**PDP-11 Operating System:** p-System™, RSX

**Keywords:** • Programming tools

This program implements a technique whereby subsequent lines of a structure are indented with respect to the first — a common way of displaying tree structures. Comments are generally aligned on the right half of the lines. The program is portable, is written in Standard Pascal, and formats many Pascal fragments as well as complete programs; thus, the program may be used during program development.

Besides a portable version, specific versions are included for DECUS Swedish Pascal under RSX-11M, for Oregon Software Pascal 2 under RSX-11M, for VAX Pascal, and for UCSD Pascal.™ The formatting technique provides a simple but powerful method of confirming manually the correct number of "end" symbols at the end of nested structured statements, giving the programmer a way of detecting and correcting errors early in the coding.

Extensive documentation is provided in documentation files and in the source code in comments. DECUS number 11-725.

p-System™ is a trademark of Pecan Systems, Inc. UCSD Pascal™ is a trademark of the University of California.

A version of this product is available for VAX computers.

**Price:** \$5 — \$225

**Contact:** DECUS (see Introduction)

### **Peregrine Four**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Application development • Data base management  
• Programming tools

Memory required: 500K plus 50K/user.

This family of products allows the user to develop and maintain business applications software. Peregrine Four includes an applications generator, a relational data base management system, a report writer, an active in-line data dictionary, and a run-time environment.

Peregrine Four allows both sophisticated users and novices to design applications. The system reduces the complexity and number of steps in each function by providing a 2-dimensional view of each function and by providing a complete, orthogonal set of building blocks for building commercial applications. The user can build the application in nonprocedural form, using predefined, high-level application function panels. If an application needs more complexity, BASIC-like programming statements can be embedded in the application.

A version of this product is available for VAX computers.

**Price:** \$1385 - \$8395

**Contact:** Leslee Mills  
(714) 855-3923

PEREGRINE SYSTEMS, INC.

15530 Rockfield Boulevard, Building C  
Irvine, CA 92718

### **PMM (Paged Memory Manager)**

**PDP-11 Operating System:** RSX

**Keywords:** • Programming tools

PMM creates a software implementation of a virtual memory-management system based on fixed-length blocks of memory. An initial allocation of main memory holds blocks that can be "paged" to and from a system disk file. The PMM supports multiple users and is simpler and faster than Storage Manager (STM). The PMM makes greater demands on the calling programs, since they are responsible for lock/unlock operations, marking "dirty" pages (those to be updated on disk), and partitioning allocated pages into smaller working units. PMM is ideal for fixed-length system applications.

Paged Memory Manager allows the user to keep an in-memory cache of the definable number of blocks; use the disk work file to page blocks that overflow the cache; create blocks, get block numbers and memory addresses, give blocks priority to control swapping, use the LRU algorithm to swap blocks of equal priority, lock blocks into memory, release a block, delete a block, or ensure that a block is in memory; and use macros to turn a block number and offset into one number and turn the number into a memory address.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht  
(617) 491-4180

OASYS

60 Aberdeen Avenue  
Cambridge, MA 02138

### **PRM-11 (Pascal Record Management)**

**PDP-11 Operating System:** RSX

**Keywords:** • File management • Software utilities

Memory required: 1KW plus RMS-11 plus user code.

This set of routines, written in Oregon Software Pascal-2 (with an additional assembly-language module) to interface user programs written in Pascal-2 to RMS-11, is a conversion of DECUS number 11-479 from Pascal-1 to Pascal-2, Version 2.1. The package provides high-level interface commands and keywords implemented through externally defined procedures to create and allow access to RMS file types (sequential, relative, and indexed). The user calls PRM routines,



which in turn call the required RMS routines. The PRM routines are linked at task-build time with the user code. DECUS number 11-691.

**Restrictions:** Implemented and tested on RSX-11M V4.0, PRM-11 also runs on VAX/VMS in compatibility mode, except that shared files may not be opened with write access, due to restrictions of the compatibility-mode emulation. PASMAL.MAC (a MACRO definitions module for Pascal-2) belongs to Oregon Software but is supplied with each Pascal-2 license.

**Note:** For support under Pascal-1, see DECUS number 11-479.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **PRO-RDM (Responsive Data Manager)**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Application development • Data base management  
• Information management • Programming tools

This library of more than 100 Pascal routines is for the programmer who desires to develop applications without most of the code writing and debugging that usually go with it. PRO-RDM improves productivity because repetitive tasks do not have to be reinvented each time a task is needed. Debugging costs and time can be reduced substantially because the programmer writes less code. Security and protection facilities are provided.

PRO-RDM requires a Pascal compiler and the RDM V3.1 data base package, which is a table- and menu-driven data base package designed for general application development. RDM V3.1 permits users and programmers to develop and use their own applications, which may include the development of data files, input screens, reports, processes, and menus. PRO-RDM permits the programmer to link the RDM V3.1 data base system to the Pascal environment, modify the existing RDM V3.1 data base, or develop stand-alone applications for use elsewhere.

**Price:** \$2500 - \$3500

**Contact:** Tom Madison

(503) 644-0111

INTERACTIVE TECHNOLOGY, INC.

1225 NW Murray Road, Suite 108

Portland, OR 97229

### **Prolog-1 (Programming in Logic)**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Artificial intelligence • Interpreters

Prolog-1 is a language suitable for applications requiring the simulation of intelligence — for example, expert systems, deductive data bases, language processing, robotic control, planning systems, design

applications, and areas of artificial intelligence. Prolog-1 is not an algorithmic language, such as COBOL or Pascal, but rather is based on the concepts of formal logic (predicate calculus) and thus dispenses with goto, do-for, while, assignment, and reference and instead incorporates the mechanisms required by intelligent programs. A Prolog program describes the problem in terms of facts, relationships, and rules and uses them to generate solutions to the problem.

Prolog-1 is written in VAX/VMS assembler and Prolog or PDP assembler and Prolog.

A version of this product is available for VAX computers.

**Price:** £1100 – £3000

**Contact:** Mark Lewis

(0865) 242206

EXPERT SYSTEMS INTERNATIONAL LTD.

9 West Way

Oxford OX2 OJB England

## PRO/Producer Tool Kit

**PRO Operating System:** P/OS

**Keywords:** • Data conversion • Graphics • Interpreters  
• Programming tools

The Tool Kit consists of software tools and libraries that are used in the development and delivery of Professional 300 series (with hard disk)-related applications produced by the VAX PRODUCER development system. The interpreter reads and processes files produced by the VAX PRODUCER development system. Two types of files are supported: Display Libraries, which are created by the VAX DRAW graphics editor and hold the visual information; and interpreter files, created by using the VAX DESIGN Preprocessor and Linker, which contain the branching, response, and judging information. VAX DESIGN is the language of the VAX PRODUCER used to create highly interactive and graphically oriented programs and can be used in such applications as Computer Based Instruction (CBI), point of purchase, or information retrieval.

If running on an IVIS system, the interpreter can issue commands to the IVIS subroutine library as stored in the file produced by VAX DRAW. If the IVIS system has the DECTouch option, the interpreter can also receive input from the DECTouch touch screen.

The interpreter supports two types of graphics protocols: ANSI Standard (VT100) and CGL (Core Graphics Library). The Extended Bitmap Option is required for support of color graphics and text.

P/OS hard disk is prerequisite.

Refer to SPD #40.34.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$150

**Contact:** Consult your local DIGITAL sales office (see Introduction).



**PRO/Scientific Subroutine Package****PRO Operating System:** P/OS, RT-11**Keywords:** • Programming tools • Scientific • Statistics

This package consists of more than 100 mathematical and statistical routines commonly required in scientific programming. The subroutines are written in FORTRAN and contain no I/O statements. Many of the larger statistical routines are provided as a collection of several smaller routines, facilitating incorporation in larger programs requiring overlays.

One of the following operating systems is required:

- P/OS hard disk, PRO/Tool Kit, and PRO/Tool Kit FORTRAN-77
- RT-11 on the Professional, and FORTRAN IV/RT-11 on the Professional

Refer to SPD #40.50.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$300**Contact:** Consult your local DIGITAL sales office (see Introduction).**PRO/Tool Kit****PRO Operating System:** P/OS**Keywords:** • Application development • Graphics  
• Programming tools • Word processing

The software consists of programming tools and libraries that allow application development for the Professional 300 series of computer systems. Programming languages available to the developer for building Professional-based applications are COBOL-81, DIBOL, FORTRAN-77, Pascal, BASIC-PLUS-2, and MACRO-11.

The development process is performed on a Professional 350. MACRO-11 or a separately available PRO/Tool Kit language is used to assemble or compile the source program. The program is then linked against the libraries provided with the PRO/Tool Kit, and the Frame Development Tool is used to prepare the menu and help frames. The application can then be executed and debugged on the Professional 350 with hard disk.

Features of the system include RMS, FMS, SORT, graphics, PRO/GIDIS (General Image Display Instruction Set), frame development tool, P/OS services, and EDT.

For application debugging, P/OS hard disk is prerequisite.

Refer to SPD #40.19.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$520**Contact:** Consult your local DIGITAL sales office (see Introduction).

**PRO/Tool Kit FORTRAN-77 DEBUG****PRO Operating System:** P/OS**Keywords:** • Application development • Compilers  
• Debugging

This fully symbolic debugger for FORTRAN-77 and MACRO-11 running on the Professional 300 series of computer systems aids in finding the location of programming errors in successfully compiled programs that do not execute properly. The kit runs as a 2-task debugger. A small portion of the code, necessary to debug applications, is linked with the user task, and the major portion of the debugger runs as a separate task.

The software provides access to program symbols by reading the symbol table file produced by the Taskbuilder. PRO/Tool Kit FORTRAN-77 DEBUG can understand symbols produced by PRO/Tool Kit FORTRAN-77 and MACRO-11.

PRO/Tool Kit is prerequisite.

Refer to SPD #40.25.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$200

**Contact:** Consult your local DIGITAL sales office (see Introduction).

**PRO/Tool Kit Real-Time Interface Library****PRO Operating System:** P/OS**Keywords:** • Application development • Programming tools  
• Systems communications

This product provides subroutines to control data transfers to and from external devices, using the PC3XX-AA Real-Time Interface and the ADMPC-XX Analog Data Module options for PC300 series computers. The software supports hardware initialization, establishment of handshaking or flow control parameters, and data transfers to, from, or between devices interfaced to the PC3XX-AA or ADMPC-XX. The library includes routines for serial asynchronous I/O; IEEE-488 operation; parallel digital I/O on either the RTI's 24-line parallel port or the ADM's 8-bit input/8-bit output ports; analog inputs to memory and to disk with real-time clock synchronization, several triggering modes, a selection of data formats, and buffer management; and utility operations, including unit conversions and bit-checking, setting, and clearing.

With the RTI support routines, I/O operations can be performed synchronously or asynchronously with the calling task. Calls can be made concurrently from multiple tasks. You can also create a shared resident library of Professional Real-Time Interface Library subroutines. With the ADM routines, calls can be made synchronously or asynchronously, but no support is provided for direct calls from concurrent tasks or for a shared resident library.



These subroutines are callable from PRO/Tool Kit FORTRAN-77, PRO/Tool Kit BASIC-PLUS-2, and PRO/Tool Kit PASCAL. After development using the PRO/Tool Kit, PRO/Tool Kit Real-Time Interface Library applications can be run on any appropriately configured PC300 system.

Refer to SPD #40.35.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$150

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **PRO/UNIX™ Software Development Kit**

**PRO Operating System:** PRO/UNIX™

**Keywords:** • Compilers • Programming tools  
• Software utilities • Source code control

DIGITAL distributes this software under license from VenturCom, Inc., and the American Telephone and Telegraph Company.

The kit provides language compilers, programming tools, and libraries for software development with PRO/UNIX Base System Kit. The software provides ease of installation (the kit is loaded with shell script that directs the user through the installation process); FORTRAN-77 compiler, Pascal compiler/interpreter, and C compiler; Source Code Control System (SCCS) standard UNIX\* utilities; and libraries for program development.

PRO/UNIX Base System Kit is prerequisite.

Refer to SPD #40.57.xx when requesting further information on this product from your local DIGITAL sales office.

UNIX™ is a trademark of VenturCom, Inc. \* UNIX is a trademark of AT&T Bell Laboratories.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **RDM (Responsive Data Manager)**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX,  
RT-11

**Keywords:** • Application development • Data base management  
• Forms management

RDM is a general-purpose application development tool for both computer and business professionals. Designed to manage data and develop full data base applications, RDM is completely form driven and uses no programming code or data base languages. Fully integrated applications are easily and quickly developed. Data files and multiscreen and window input forms are easily created with on-line tables and editors. Powerful reports and processes, along with menu commands, on-line help, security procedures, and complete data management utilities, can also be added to any application. The RDM Indexer, an RDM companion, uses B\*Tree technology for fast access to

all data. This extraordinarily sophisticated software accomplishes most data base tasks, with enhanced user friendliness and complete application flexibility.

A version of this product is available for VAX computers.

**Price:** \$995 - \$9490

**Contact:** Tom Madison  
(503) 644-0111

INTERACTIVE TECHNOLOGY, INC.

10700 S.W. Beaverton-Hillsdale Highway, Suite 460  
Beaverton, OR 97005

### **RENUM: FORTRAN Renumbering Program**

**PDP-11 Operating System:** RT-11

**Keywords:** • Programming tools • Source code control

RENUM replaces the existing statement numbers (labels) with a new, equivalent series of sequential numbers. RENUM also produces a cross-reference table of the variable names used in the source file, showing all line numbers where each occurs.

Either or both of those services can be produced, along with a listing of the source code. The two functions are completely independent. Control is by means of terminal-entered command strings following the standard RT-11 rules. Up to six input files for each command line can be on any disk device, and output files can be directed to any device. When renumbering occurs, a new disk file is created with the renumbered source code, and the original source file is changed to .OLD. The line numbers used for cross-referencing the variable names agree with those on a compiler-generated listing. RENUM runs only under RT-11 version 2B and requires SYSLIB. DECUS number 11-214.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RENUM: FORTRAN Renumbering Program**

**PRO Operating System:** RT-11

**Keywords:** • Programming tools • Source code control

RENUM is intended to replace the existing statement number in a FORTRAN program with a new (an equivalent) series of sequential statement numbers and to produce a cross-referenced table of all variable names used in the source code, showing the line numbers where all references to each variable name occur. The line numbers used for cross-referencing agree with those on a compiler-generated listing. Either or both of these services, along with a listing of the source code, can be produced; the two functions are completely independent. Control is by means of terminal-entered command strings following the standard RT-11 rules. Input files (up to six for a command line) can be on any disk device, and output files can be directed to any device. A new disk file (by the original name) is created for the renumbered source code, and the original file is changed to .OLD.



RENUM, Version 4, adds several new useful features, including the ability to specify the starting new statement numbers and the increment between new statement numbers, a reformatted source listing, flagging the range of DO loops, and improved variable name scanning, especially in logical IF statements. DECUS number PRO-112.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **RENUMB.BAS (BASIC File-Renumbering Program)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Diagnostics • Programming tools  
• Source code control

Memory required: 8K.

RENUMB rennumbers the lines of any RT-11 single-user BASIC program. Various error conditions are detected and flagged. The program can therefore be used for diagnosing simple program errors. DECUS number 11-244.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **RENUM/PRENUM BASIC Renumberer**

**PDP-11 Operating System:** RSTS

**Keywords:** • Programming tools • Source code control

Memory required: 19KW.

RENUM numbers .BAS or .B2S programs, starting with any new line number and by any increment. All statement references are also translated.

PRENUM rennumbers any .BAS or .B2S programs, using any increment, but only between statements 1000 and 18,999. Statements 1000, 10,000, 15,000, and 19,000 are not changed, following the convention given in the *PDP-11 BASIC-PLUS-2 Language Reference Manual*, Section E.2. Renumbering starts at the line 1000 and restarts at lines 10,000 and 15,000. DECUS number 11-653.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **RESEQX**

**PDP-11 Operating System:** RSTS

**Keywords:** • Programming tools • Source code control

Memory required: 16KW.

RESEQX resequences the line numbers of programs written in BASIC-PLUS. Upper- and lowercase verbs and variables are handled correctly. Programs written in EXTEND, NO EXTEND, or a combination of those modes are properly resequenced if they compile without errors. Also, the verbs EXTEND and NO EXTEND must appear in the appropriate places in the program. Line numbers may lie between 1

and 32,767 and may be any length. However, a program must not contain more than 32,767 physical or 1700 numbered lines.

Up to 20 program segments may be resequenced at one time. When an input file specification is the same as the output file specification, the input file is named with the extension .SEQ. If a file with the same extension exists, that file is deleted before renaming. Supplementary programs are provided, allowing users to maintain the verb list. DECUS number 11-492.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RQRDMA: DMA Interlock for RSX**

**PDP-11 Operating System:** RSX

**Keywords:** • Application development • Programming tools

This package allows a DMA interlock into RSX-11M so that high-speed DMA peripherals can be used under RSX, without data lates. Only one device is allowed to perform a transfer at any time. In addition to avoiding data lates, the interlock avoids some of the BRU and DSC failures commonly encountered when adding third-party disks and tapes to PDP-11s.

The release consists of a note, source of RQRDMA, the interlock routine, and SLP correction files for versions of SYSXT, MTDRV, and DLDRV from RSX-11M Version 4.0. These correction files will not work in later versions of RSX without modification. No drivers are included with this material.

DIGITAL's RSX driver sources are required. This program is for expert RSX systems programmers only. DECUS number 11-711.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RSTS/E File List and Scan Utilities**

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Programming tools  
• Software utilities • Source code control

Two utilities are supplied. SPLIST reformats source files for output by the system spooling package, with page headers identifying the files, and doing page feed to keep BASIC or BASIC-PLUS-2 lines together. FLSCAN searches source files for lines containing matches for a specified string. The output can be to the terminal or to a disk file, which optionally can be spooled. Included also is a patch file for the RSTS V8 SYSTAT program for doing SY/W or SY/O, with output limited by job number, keyboard, or account. DECUS number 11-735.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**RSX MDE/T-11 (Microcomputer Development Environment)****PDP-11 Operating System:** RSX**Keywords:** • Debugging • Microprocessor development  
• Modeling/simulation • Real time

This hardware/software in-circuit emulation development system for the Micro/T-11 16-bit microprocessor offers features for observing, controlling, and simulating the hardware interface between the processor and external circuitry, without impacting the speed, performance, or operating environment of the Micro/T-11. RSX MDE/T-11 includes a MACRO-11 source language debugger.

Refer to SPD #14.23.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

**RSXLIB****PDP-11 Operating System:** Micro/RSX, RSX**Keywords:** • A/D, D/A • Data collection  
• Device drivers/handlers • Programming tools

This RSX-11 subroutine library for Q-bus and UNIBUS data acquisition and control boards provides support for a wide variety of both programmed I/O and DMA analog I/O interfaces in a real-time, multitask, multiuser programming environment. The package supports Q-bus hardware available from both Data Translation and DIGITAL (AAV11-C, ADV11-C, AXV11-C, DRV11-B, and K WV11-C) and consists of a set of drivers and a library of subroutines designed to be linked to RSX-11 FORTRAN programs. The software package, in conjunction with FORTRAN, enables users to easily create powerful application programs.

RSXLIB includes a configuration command file and comprehensive documentation, making the package easy to install and easy to use. A complete error reporter checks for programming errors and reports syntax and usage errors for easy correction. Attempts to operate the interfaces in illegal modes of operation are reported.

RSXLIB features single or multibuffer operation for I/O to or from memory. Multiple-buffer operation allows throughput to or from mass storage. A reentrant subroutine library supports multiuser and multitasking operation using FORTRAN. An identical subroutine library is available for both UNIBUS and Q-bus boards. Drivers operate under either RSX-11M or RSX-11S and can be loadable or resident. Driver implementation minimizes interrupt service and buffer-switching times for maximum throughput.

**Price:** \$1995

**Contact:** Tony Direnzo  
(617) 481-3700 ext. 671

DATA TRANSLATION, INC.  
100 Locke Drive  
Marlboro, MA 01752

### **RT-11 MDE/T-11 (Microcomputer Development Environment)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Microprocessor development  
• Modeling/simulation • Real time

This hardware/software in-circuit emulation development system for the Micro/T-11 16-bit microprocessor offers features for observing, controlling, and simulating the hardware interface between the processor and external circuitry, without impacting the speed, performance, or operating environment of the Micro/T-11. RT-11 MDE/T-11 includes a MACRO-11 source language debugger.

Refer to SPD #12.64.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **RT-11 V2.0/MU BASIC Utilities Package**

**PDP-11 Operating System:** RT-11

**Keywords:** • File transfer • Language enhancers  
• Text management

Memory required: 2.7KW of user area.

This package includes a text editor and programs to catalog and transfer files, to cross-reference BASIC programs, to display MU BASIC system status, and to set up MU BASIC terminal configurations automatically at start-up time. DECUS number 11-499.

Note: This package requires Version 2 of RT-11/MU BASIC, which is supported only under Versions 3B and 4 of RT-11. This package uses features of RT-11 V2.0/MU BASIC and will not run on RT-11 V1/MU BASIC. A package that functions similarly for RT-11 V1/MU BASIC is available as DECUS number 11-297.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RTEM-11 (RT-11 Emulator for RT-11, Version 5.1)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Assemblers • Compilers • Debugging  
• Programming tools

Memory required: 32KW minimum.

RTEM-11 provides the RT-11 program development environment on RSX-11M, RSX-11M-PLUS, and VAX/VMS. RTEM-11 runs in compatibility mode on VAX/VMS systems and allows several users to



develop RT-11 applications concurrently on a host system. The number of users depends on CPU power and system activity. Application programs can be created, edited, assembled, and linked on RTEM-11 and then executed on RT-11.

Refer to SPD #30.21.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for VAX computers.

**Price:** \$315 - \$1000

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **RTEM-11 (RT-11 Version 5.2 Emulator for RSX)**

**PDP-11 Operating System:** Micro/RSX, RSX, RT-11

**Keywords:** • Application development • Assemblers  
• Compilers • Debugging

RTEM-11 provides the RT-11 program development environment under the RSX-11M, RSX-11M-PLUS, and MicroRSX operating systems. RTEM-11 allows several users to develop RT-11 applications concurrently. The number of users depends on CPU power and system activity. Application programs can be created, edited, assembled, and linked on RTEM-11 and then executed on RT-11.

Most programs developed on RTEM-11 can be debugged and tested on RTEM-11. Foreground/background (FB) is the only execution environment supplied with RTEM-11.

Refer to SPD #15.63.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **S-TRAN™ BASIC to C Translator**

**PDP-11 Operating System:** Independent, RSX

**Keywords:** • Compilers • Interpreters  
• Microprocessor development • Translators

S-TRAN, developed by Software Manufacturing, consists of a translator package (preprocessor, translator, and postprocessor) and a run-time package and is available in binary format. S-TRAN, or Source Translator, accepts any application system, such as accounting software or vertical application, written in popular BASIC dialects, such as OASIS BASIC or Microsoft MBASIC, and produces an identical C-based version, which can execute under UNIX\* and non-UNIX\* environments.

S-TRAN accepts as input each application module and converts it to a functionally equivalent C source code program that conforms to the widely adopted Kernighan and Ritchie C definition. Modifications can be made to BASIC programs that are retranslated, or maintenance can be performed directly on the C version.

The generated C source code uses standard C libraries in addition to special features, such as ISAM support and terminal independence, and advanced features, such as CHAIN with COMMON, RSET, LSET, MID\$, RPAD, LPAD, LINE INUT, PRINT USING, ON ERROR GOTO, and others.

Generated C code can be processed with our compilers; all OASYS software debugging tools are applicable. S-TRAN is written in C, can be easily ported, and easily accommodates other dialects of BASIC.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht

(617) 491-4180

OASYS

60 Aberdeen Avenue

Cambridge, MA 02138

### **Safe C Statement-Level Profiler™**

**PDP-11 Operating System:** RSTS, RSX, RT-11, ULTRIX-11

**Keywords:** • Compilers • Debugging • Programming tools

This program development tool counts the number of times each statement in a program is executed during a run of the program. The Profiler can be useful during debugging by showing where a program spends its time. For example, the Profiler can show the number of times a particular loop is executed, how many times each branch of a conditional is taken, which parts of the program are executed most often, and which parts of a program have never been exercised.

The control of the Safe C Profiler differs from the control of the standard UNIX\* system profiler. The standard profiler reports only the number of times each function is called. That profiler is inadequate for finding unexecuted statements or for answering how many times a particular statement has been executed. Also, the standard profiler works by repeated sampling of a program; in order for its output to be valid, a program has to be run many times.

By contrast, the Safe C Profiler reports an exact count for each statement monitored. The Profiler can be applied selectively to individual modules and to particular functions within a module. An auxiliary command displays the profiling results alongside the statements of the original source code.

The Safe C Profiler is easy to use and similar to the UNIX\* profiler. No changes are required in the source code to enable profiling.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.



**Price:** \$400 – \$1200

**Contact:** James R. Norgaard  
(617) 497-2160

CATALYTIX CORP.

55 Wheeler Street  
Cambridge, MA 02138

### **SB-5 (System Builders-5)**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**Keywords:** • Documentation tools • Forms management  
• Programming tools • Report writer

These programs automate the design, production, documentation, and maintenance of COBOL-language applications software. A parameter file containing SB-5 program function parameters and user-added COBOL code is created for each program in the application. These parameter files are the source of all designs, documentation, and programs produced by SB-5. The parameters and user-added code are entered interactively, with on-line help available.

The user-friendly SB-5 system permits screen, menu, report, label, and form layouts to be "painted." In addition to producing the desired applications software, SB-5 generates documentation, including screen, menu, form, and label previews; application-system flowcharts, four types of application cross-reference reports, five levels of program and operating documentation, and project management statistics reports.

A version of this product is available for VAX computers.

**Price:** \$2900 – \$16,000

**Contact:** David J. Hirschfeld  
(201) 340-9893

BUSINESS CONTROLS CORP.

3-7 West First Street  
Clifton, NJ 07011

### **SCAN (Single-Channel Analyzer)**

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Real time • Signal processing

Memory required: 30K words.

The easy-to-use SCAN system includes the following signal acquisition and processing functions: analog sweep acquisition with rates up to 20,000 samples a second (dwell-time of .00005 seconds), analog signal averaging with sweep rates up to 20,000 samples a second, power spectrum calculation (with frequency-domain display) using Cosine-bell windowed time-domain data, complete time-and-frequency-domain parameter generation by moving a data display cursor, and single- or multiple-channel analog input with throughput to a mass-storage file.

The SCAN package is available for MINC-11 and DECLAB-11 systems having an MNCKW programmable clock, an MNCAD A/D (analog-to-digital) converter, and a VT105 video graphing terminal. DECUS number 11-426.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SCCS (Source Code Control system)**

**PDP-11 Operating System:** RSX

**Keywords:** • File management • Programming tools  
• Source code control • Text management

This software development tool supports the preservation of and controls access to source code. SCCS provides a terminal environment for the external manipulation of ASCII text files in RSX multiuser systems. SCCS provides the same facilities to both privileged and non-privileged users. Internal manipulation of text files is accomplished with any of the standard DIGITAL-supplied text editors or with TECO. SCCS manipulates text files on behalf of the user according to the SCCS algorithm such that intermediate stages in the text-development process are preserved in an incremental fashion. The SCCS concept permits selective regeneration of intermediate versions, collapsing of some or all intermediate versions of a text file into a "new" version, and the collective processing of multiple versions of multiple files as a single unit. SCCS is implemented as an RSX indirect command file.

**Price:** \$2000

**Contact:** Arthur Gaughan  
(215) 699-9658

SKIPPACK SYSTEMS GROUP  
P.O. Box 1595  
North Wales, PA 19454

### **SDP**

**PDP-11 Operating System:** RSX

**Keywords:** • Architecture • Programming tools

**Memory required:** 64KB.

This programming design language, written in FORTRAN-77, applies software engineering methodologies, such as top-down design, structured design, and data abstraction, to the design. The designer expresses his or her ideas in a top-down manner, and module interconnection is recognized automatically by the processor. Keywords are boldfaced, parameters are underlined, and constructs are indented. SDP generates a cross-reference of modules and data items, calling free and various dictionaries.

A version of this product is available for VAX computers.



**Price:** \$2500 – \$15,000

**Contact:** Zvi Yami

(972) 8-473480

MAYDA SOFTWARE ENGINEERING

P.O. Box 1389

Rehovot Israel

## SISINF

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Data base management • Information management  
• Language processors • Programming tools

SISINF is an integrated product with a universal fourth-generation programming language, a data base management system with up-to-date technology, and numerous user aids and utilities. This easy-to-learn, menu-driven, user-friendly, and results-oriented product includes a 3-level data security system, an integrated documentation package, a resource accounting system, easy communication with other systems, and utilities for data base maintenance, reconstruction, and file conversion.

The data base manager permits up to 30 levels and up to 10 keys at any level, each with 10 subkeys; hardware-independent data definition; multiple simultaneous access; and an accessible central dictionary. Two alternative data access methods are provided.

The fourth-generation programming language incorporates 40 verbs for manipulating the data base; controlling terminal output; creating printed reports; managing sequential files; handling dates, alphanumeric information, and arithmetic operations; and communicating with programs in other languages. SISINF provides extensive user facilities for menu generation, screen handling, report generation, data manipulation, and table management. COBOL and FORTRAN subprograms are allowed.

SISINF controls interaction with your computer's operating system, supports both interactive and batch operation, and automatically controls multiple simultaneous access for read or write operations.

A version of this product is available for VAX computers.

**Price:** \$8000 – \$18,500

**Contact:** John N. Teeter

(512) 465-4010

KRATOS, INC.

702 Colorado, Suite 402

Austin, TX 78701

## SNDRCV (Send/Receive File Utility)

**PDP-11 Operating System:** Independent

**Keywords:** • Disk utilities • File transfer  
• Microprocessor development

SNDRCV, available in source and object formats, transfers ASCII or binary data files with a specified record size between machines. Sumchecking and handshaking functions can be performed at both the sender's end and the receiver's end. The SNDRCV utilities at each end of the transfer monitor the progress and integrity of each transmission and try again if necessary.

SNDRCV can receive many files unattended. The send command specifies the destination file name, including path (in terms of the destination operating system). The record count and checksum of each file are computed and printed at both sides as a final check on integrity. The program handles byte-swapping differences between VAX and 68000 and is ideal for reliable transmission of program images and so on. The baud rate can be set from the command line. Target memory address may be specified.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht

(617) 491-4180

OASYS

60 Aberdeen Avenue

Cambridge, MA 02138

### SofForms

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Data collection • Data entry

• Forms management • Programming tools

SofForms, a forms creation package, provides data entry forms in front of any application, with help and validation associated with every data entry field. The form painter program allows the designer to paint the form on the screen and to associate help text and validation criteria with each field. The run-time portion will display the form for the end user, collect and validate data, and respond to help requests.

A version of this product is available for VAX computers.

**Price:** \$250 - \$1000

**Contact:** David Schneider

(201) 447-3901

SOFTTEST

555 Goffle Road

Ridgewood, NJ 07450

### SOLUTIONS DECK Design

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Pre- and postprocessors

• Query facilities

SOLUTIONS DECK Design provides the system designer with a simple and quick methodology to lay out files and to define menus, screens, master and transaction processing, and report-inquiry programs. The



interactive process runs from the user's terminal and is driven by the user's replies to simple English prompts. No in-depth knowledge of programming or data storage mechanics is required.

SOLUTIONS DECK Design is menu driven and uses self-explanatory prompts to guide the user with defaults and display of available answers when appropriate. The system contains modules to handle each requirement normally found in on-line, menu-driven commercial data processing applications.

SOLUTIONS DECK Design includes modules for both designing and documenting. SOLUTIONS DECK Design produces full documentation of all files, screens, and report layouts. In addition, program narrative and program outlines detailed to the code section level are produced. The program outlines include necessary code for standard routines and section headers indicating location and detail of additional code required as indicated by the design effort.

All products are created as ASCII disk files and are available for printing, editing, and so on.

A version of this product is available for VAX computers.

**Price:** \$795

**Contact:** W. R. Hallam

(506) 455-1008

SOLUTIONS DECK

P.O. Box 684, Station A

Fredericton, New Brunswick E3B 5B4 Canada

## **SOLUTIONS DECK DMS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Pre- and postprocessors

This family of preprocessors greatly speeds the creation of programs normally found in an interactive commercial data processing system. These low-cost tools should provide at least a 100% productivity improvement, even in casual use, over traditional methods. The preprocessors' objective is to quickly and accurately produce 90% to 95% of the code required for each type of program — free of errors and bugs.

All SOLUTIONS DECK preprocessors are driven by the user's replies to an interactive dialog conducted from a terminal. From the user's replies, a program is tailored for the specific situations, including "painting" screen and report layouts.

The family includes the following program-type preprocessors:

- **Dictionary** — Produces a complete dictionary file from user replies to simple questions, provides recommended system defaults, and uses channel assignment to ensure unique line numbers.

- **Master** — Meets most master file program requirements, including logic to support additions, changes, deletions, and inquiry; and creates code required for file and screen handling, beginning and end of job, and error handling.
- **Transaction** — Produces most of the code required for most transaction programs; supports up to 12 files; creates code required for file and screen handling, matching, breaks, secondary file(s) handling, error codes, and beginning and end of job routines; and supports user-directed special handling.
- **Report** — Meets most report program requirements; supports up to three files in one report; and creates code required for file and report handling, run totals, matching, breaks, error handling, and beginning and end of job routines.
- **Inquiry** — Meets most inquiry programs requirements; supports up to three files in one inquiry; and creates code required for file and screen handling, matching, breaks, totals, error handling, and beginning and end of job routines.
- **Merge-extract and reformat** — Completely or selectively selects, merges, and/or reformats existing files into one or more additional or changed files.

In all cases, SOLUTIONS DECK produces documentation of all screen and report layouts as well as program narratives.

A version of this product is available for VAX computers.

**Price:** \$250 — \$1495

**Contact:** W. R. Hallam

(506) 455-1008

SOLUTIONS DECK

P.O. Box 684, Station A

Fredericton, New Brunswick E3B 5B4 Canada

### **SOLUTIONS DECK Extract**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Pre- and postprocessors

SOLUTIONS DECK Extract-Merge-Reformat Preprocessor is designed to interactively produce more than 95% of the code required for most extract-merge-reformat program requirements in a matter of minutes. The preprocessor should provide a 100% productivity improvement, even in casual use.

SOLUTIONS Extract-Merge-Reformat is driven by the user's replies to an on-line, interactive dialog. The user specifies up to three files for inclusion and indicates their relationships. The user is then guided for optional inclusions. SOLUTIONS Extract-Merge-Reformat then produces the program.

SOLUTIONS Extract-Merge-Reformat is one of a family of SOLUTIONS DECK preprocessors designed to support all program types found in an on-line commercial environment.

A version of this product is available for VAX computers.



**Price:** \$495 – \$595

**Contact:** W. R. Hallam  
(506) 455-1008

SOLUTIONS DECK

P.O. Box 684, Station A

Fredericton, New Brunswick E3B 5B4 Canada

### **SOLUTIONS DECK Master**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Graphics  
• Pre- and postprocessors

SOLUTIONS DECK Master preprocessor is designed to interactively produce more than 95% of the code required for most of the master file programs in a matter of minutes. Use of the preprocessor should provide a 100% productivity improvement, even in casual use.

SOLUTIONS Master is driven by the user's replies to an on-line, interactive dialog. The master file description is specified for inclusion. The user is then guided through screen layout — headings, prompts, and replies — to quickly and easily "paint" the desired screen for master file maintenance, including edit for data type and lengths. The user can indicate any special data handling required for each data item. SOLUTIONS Master prepares section headers indicating required code and includes them in the program being produced. The output program is then completed by the addition of the user's (optional) own code.

SOLUTIONS Master uses any file description. The program created includes all code for file and screen handling. Logic to support master file additions, changes, deletions, and inquiries is included. Also included are beginning of job, end of job, and error routines.

The user can add code for data input/output and any special handling to complete the program.

A version of this product is available for VAX computers.

**Price:** \$495 – \$695

**Contact:** W. R. Hallam  
(506) 455-1008

SOLUTIONS DECK

P.O. Box 684, Station A

Fredericton, New Brunswick E3B 5B4 Canada

### **SOLUTIONS DECK Report Writer**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Report writer

This preprocessor is designed to interactively produce more than 95% of the code required for most of the report program requirements in a matter of minutes. SOLUTIONS DECK Report is one of a family of SOLUTIONS DECK preprocessors designed to support all program

types found in an on-line commercial environment and should provide 100% productivity improvement, even in casual use.

SOLUTIONS Report is driven by the user's replies to an interactive dialog from a terminal of almost any type. The user specifies up to three files for inclusion and indicates their relationships. The user is then guided to heading and report layout(s). SOLUTIONS Report then produces the program ready for inclusions of the user's (optional) own code. The program created includes all code for file and report handling, run totals, matching, breaks, and beginning and end of job routines. The output report can be sent to any system printer.

A version of this product is available for VAX computers.

**Price:** \$595

**Contact:** W. R. Hallam

(506) 455-1008

SOLUTIONS DECK

P.O. Box 684, Station A

Fredericton, New Brunswick E3B 5B4 Canada

### **SOLUTIONS DECK Transaction**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Graphics  
• Pre- and postprocessors • Query facilities

This program processor is designed to interactively produce more than 90% of the code required for most transaction processing program requirements in a matter of minutes. Use of the SOLUTIONS Transaction should provide a 100% productivity improvement, even in casual use.

SOLUTIONS Transaction is driven by the user's replies to an on-line, interactive dialog. The user specifies up to 12 files for inclusion and is then guided through screen layout, including heading, input prompts, and replies. Logic for the editing of input data type and lengths is also included. The user can indicate any special data handling required for each data item. SOLUTIONS Transaction prepares section headers indicating required code and includes them in the program being produced. The output program is then completed by the addition of the user's (optional) own code.

A version of this product is available for VAX computers.

**Price:** \$795

**Contact:** W. R. Hallam

(506) 455-1008

SOLUTIONS DECK

P.O. Box 684, Station A

Fredericton, New Brunswick E3B 5B4 Canada



**SourceTools™****PDP-11 Operating System:** Micro/RXS, RSTS, RSX**Keywords:** • File management • Programming tools  
• Software utilities • Source code control

This language-independent tool increases individual and programmer productivity by keeping track of details. SourceTools includes a source control system, a file rebuilder, a file comparator, and a stream editor to effectively manage and maintain all stages of the software development life cycle.

A version of this product is available for VAX computers.

**Price:** \$1800 - \$7500**Contact:** Sales Department  
(503) 245-2202OREGON SOFTWARE  
6915 S.W. Macadam Avenue  
Portland, OR 97219**SPECS: A Menu-Control System for RT-11****PDP-11 Operating System:** RT-11**Keywords:** • Menu handlers • Scheduling

Memory required: 17.3KW to 12.3KW.

SPECS interprets commands given in user-created ASCII menu files, presents options to the user, and acts on the selections made. SPECS has a rich command set that allows moving between various menus, chaining to other programs, sending commands to KMON, scheduling foreground or system jobs, and communicating between jobs. Question/answer dialogs can be designed, and the system has a built-in help facility. VT100 and VK100 special features are supported. SPECS is an ideal system for creating a safe and friendly user interface to complex software systems or for integrating a diverse package. DECUS number 11-616.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**STM (Storage Manager)****PDP-11 Operating System:** RSX**Keywords:** • Disk utilities • Programming tools

STM allows systems to be written without regard to memory demands for physical space. STM gets the right piece of memory to the right location at the right time. STM is initially allocated one large block of memory. Callers of STM are allocated variable-length pieces of that memory, the sum of which may be many times larger than STM's original allocation. STM controls the movement of logical blocks of user data to and from the system disk. The STM is typically used to manage data, not programs (as in the case of program overlays). STM is used as the underlying storage allocation mechanism in the Symbol Manager (SYM).

STM works on VM or normal system without reprogramming. STM can allocate any sized continuous block of memory, refer to blocks through block numbers that are converted to real addresses, allow a block to be grown or shrunk, switch blocks to disk, refer blocks to memory, lock blocks to memory, align all blocks on machine word size, designate blocks to read-only to optimize disk access, recover freed memory, and collect switchable statistics for analysis of STM use.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht

(617) 491-4180

OASYS

60 Aberdeen Avenue

Cambridge, MA 02138

### **SUBS (Standard Subroutine Library), Version II**

**PDP-11 Operating System:** RSTS

**Keywords:** • Assemblers • Programming tools  
• Source code control

This set of assembler and BASIC routines performs common programming functions and features cursor positioning, clearing all or parts of the screen, displaying a message at a screen location, accepting and editing a user response, displaying user error prompts and waiting for a response, ASCII-to-EBCDIC conversion, and packing and unpacking data fields. Also included are routines that perform terminal recognition tests and that issue the proper cursor control sequences for DIGITAL, Televideo, Hazeltine, and ADM terminals.

User manuals can be purchased to preview the functioning of the product. A user instruction/installation guide is included.

Limited support, as defined in the Software Maintenance Agreement, is provided for SUBS for 60 days. Additional coverage is available.

A version of this product is available for VAX computers.

**Price:** \$1000

**Contact:** Neal J. Anderson, Senior Product Specialist

(414) 784-8250

MCHUGH, FREEMAN AND ASSOCIATES, INC.

1135 Legion Drive, P.O. Box 454

Elm Grove, WI 53122

### **SUPERDBG**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11, TSX-PLUS™, ULTRIX-11

**Keywords:** • Debugging • Microprocessor development  
• Systems communications

SUPERDBG is a family of software debuggers or emulators that support microprocessor program development. Two SUPERDBG debugger



versions are available for each of the commonly used microprocessors. The simplest and least expensive version, LEVEL 0, is a binary debugger similar to ODT in its operation. LEVEL 1 debuggers also enable users to reference addresses and op codes symbolically.

SUPERDBG debuggers use the outputs of the corresponding SUPERMAX cross-assembler/linker packages to produce a load module, which is then read into SUPERDBG debugger, using the LOAD command. The user can then perform a number of operations on the load module, including emulated execution. Other features include breakpoints, single- or multiple-step execution, and the ability to examine or modify individual registers, condition codes, and memory locations.

SUPERDBG debuggers can also communicate directly with the host system, reading and writing to the system device and accessing the console keyboard and screen. Those and other features are provided to allow the user to access the external devices outside of the emulated microprocessor.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$500 – \$1000

**Contact:** Mark P. White, Vice President, Marketing  
(617) 938-0709

CYMRIC COMPUTER SYSTEMS, INC.  
10 G Roessler Road  
Woburn, MA 01801

## **SYM (Symbol Manager)**

**PDP-11 Operating System:** RSX

**Keywords:** • Programming tools

This general-purpose system for performing common operations related to managing a collection of symbols permits the caller to store its information in a symbol table entry. The symbol table is managed through the Storage Manager (STM). The SYM package provides sufficient flexibility and performance to meet the needs of most situations. SYM is ideally suited for interpreters, assemblers, and compilers.

Symbols are user-defined structures that may contain a name of any length. Different symbols have different structures. A symbol may be a "leaf" or a symbol table. Various functions manage those symbols. Class codes distinguish among classes of symbols; functions insert, look up, rename, and delete symbols; look up a substring of a symbol name, using a hash algorithm; and find the first or next symbol in a symbol table.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht  
(617) 491-4180

OASYS

60 Aberdeen Avenue  
Cambridge, MA 02138

### **SYMBOL: Symbol Table Search Program**

**PDP-11 Operating System:** RSX

**Keywords:** • Programming tools

**Memory required:** 35KB.

This program searches global symbol table files (.STB) produced by the task builder. SYMBOL can also search object modules produced by any of the standard language processors. The object modules can reside in an object module library produced by the librarian.

SYMBOL requires no special privileges to run. SYMBOL is useful for system programmers debugging privileged code who need to examine the RSX-11M executive data base on line. SYMBOL was written during the course of debugging an ACP for this purpose and has grown more flexible. DECUS number 11-588.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SYMBUG (Symbolic Debugger for Use with MACRO Programs)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Debugging • Programming tools

SYMBUG, which has been used by the assembly language programming classes at St. Michael's College, runs with programs written in RT-11 MACRO on the RSTS operating system and allows the user to access memory locations by their symbolic names, set breakpoints, single step, and display and load memory locations in octal, decimal, or ASCII. The manual steps the student through a sample debugging session. DECUS number 11-713.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **System Device Handler for RM02, RM03, RP04, RP05, RP06, and RT-11 V4**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Disk utilities  
• Documentation tools

**Memory required:** 16KW.

This document file instructs the user on the purpose of the following files:

- RP045.MAC, RP06.MAC, and RM023.MAC — Conditional assembly files to instruct the assembler to assemble code for RP04 or RP05, RP06, and RM02 or RM03 disk drives, respectively



- ERL.MAC — Conditional assembly file to instruct the assembler to include ERROR LOGGING code
- DBDQ.MAC — Main assembly code
- XM.MAC — Conditional assembly file to instruct the assembler to generate the appropriate code for an XM handler
- HNDBLD.SAV — An assembly save module to generate, on the system disk (HNDBLD.COM), an indirect command file that will tailor the handler
- DB.SYS and DBX.SYS — RP04 or RP05 system handlers and RP04 or RP05 XM system handlers without error logging
- DQ.SYS and DQX.SYS — RM02 or RM03 system handler and RM02 or RM03 XM system handler without error logging
- DBFRM.FOR — FORTRAN program to format an RP disk drive
- HNDSAV.COM — Indirect command file to save files on tape
- BADBKS.FOR — FORTRAN source program to generate bad-block files on the requested device

DECUS number 11-517.

Restrictions: Only DB0 or DQ0 can be the system device; the other devices are slaves (nonbootable).

Note: Sources for HNDBLD.SAV (System Indirect Command Builder) are not included.

Price: \$5 - \$225

Contact: DECUS (see Introduction)

### Task Image Zapper and Other Goodies

**PDP-11 Operating System:** RSX

**Keywords:** • Calculation aids • Data conversion • File transfer  
• Software utilities

Memory required: 14KW.

The following programs are on this tape:

- TIZ (Task Image Zapper), a postprocessor for the task builder
- CALC.CMD (Calculator), an "@" processor-based calculator for integer calculations in octal or decimal and radix conversion to or from ASCII, RAD50, or any radix from 2 through 6
- BRU.CMD (BRU preprocessor), which generates mounts, dismounts, and BRU commands, based on user input and the state of the system

DECUS number 11-632.

Price: \$5 - \$225

Contact: DECUS (see Introduction)

### TBS PDS (Pascal Development System)

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** RT-11

**Keywords:** • Application development • Documentation tools  
• Programming tools

PDS has all the tools necessary to develop commercial software in Pascal and allows users to establish a data base and parameterized data entry and reports. Some PDS features are a complete multiuser ISAM-type File Manager with utilities, file definitions that can be changed without changing programs, parameterized screen entry and editing, parameterized reports that can be changed without changing programs, approximately 50 utility programs and procedures for flexible use and handling of standard programming needs, and parameterized CRT routines that allow mixed CRTs on the system. The system is designed for interactive menu-driven systems and has self-documenting features. PDS is field tested and has been used to develop complex accounting systems.

This system comes free with the purchase of TBS Accounting Software.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$650 - \$1500

**Contact:** Larry Jones  
(818) 352-6058

THETA BUSINESS SYSTEMS  
9947 Commerce Avenue  
Tujunga, CA 91042

### TCAT/C (Test Coverage Analysis Tool)

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Diagnostics • Pre- and postprocessors

This system provides a free-standing capability to analyze and report C1 and P1 coverage levels. TCAT/C processes ANSI-standard C programs and local machine dialect features, depending on the system version and host. Versions are available for COBOL, Pascal, BASIC, and C.

TCAT consists of a preprocessor to instrument code, a run-time package to generate tracefiles, and a postprocessor to analyze tracefiles and prior-history records. TCAT enables programmers to audit the quality and completeness of test data to ensure that a program has been thoroughly tested and performs as specified. TCAT gives the auditor and programmer a concise summary of which logical conditions were and were not executed in the test runs of a program, by instrumenting every conditional statement in a program automatically. TCAT can be installed on any machine that runs UNIX\* or DOS.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** \$975 - \$9000

**Contact:** Christopher deLellis  
(415) 957-1441



SOFTWARE RESEARCH ASSOCIATES  
P.O. Box 2432  
San Francisco, CA 94104

### **TCFL: Terminal Control Function Library**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Software utilities

This subroutine library provides RT-11 programmers with a convenient method of controlling "smart terminals." FORTRAN-callable routines have been provided for the issuing of most ANSI terminal control sequences and also for the receipt and interpretation of response from the terminal. RT-11 multiterminal or single-console I/O options can be selected during program assembly. DECUS number 11-697.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TECO, COPY, SRD, MCR, and RNO for P/OS**

**PRO Operating System:** P/OS

**Keywords:** • Documentation tools • Programming tools  
• Software utilities

This expanded version of the developer's kit replaces P/OS Version 1.0 and contains MCR, a command line interface, including INSTALL, REMOVE, RUN, ASSIGN, DEASSIGN, SET, and SHOW commands; UTIL, a program interfacing to the PROVOL system service to allow foreign mounting of disks, dismounting, FILES11 mounting, and bootstrapping; RNO, RUNOFF, IASV2, and RSX11M 3.1; TECO, Version 36, using F11 (ESC), F12 (BS), and F13 (LF) keys, supports scroll mode and includes VTEDIT.TEC; SRD, with multicolumn output; and COPY, image copy from DZ1: to DZ2. DECUS number PRO-101.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TESTWARE**

**PDP-11 Operating System:** Independent, MicroPower/Pascal, RSTS, RSX, RT-11

**Keywords:** • Programming tools • Quality control

TESTWARE, an application-independent fully automated programming tool for testing software, greatly reduces the expense of developing and maintaining software over the total system life cycle. TESTWARE ensures that programs under development run correctly and that programs modified after development continue to run correctly. The tool maintains a permanent record of test data, test conditions, and test results and permits testing of system functions, which may be comprised of any number of modules. TESTWARE augments the software quality assurance function, is an integral part of the configuration management function, and is available on PDP, VAX, IBM PC, and 68000-based systems for Pascal and C programs.

A version of this product is available for VAX computers.

**Price:** \$500 – \$9800

**Contact:** Don Waterman  
(613) 820-7235

PRIOR DATA SCIENCES LTD.

Bell Mews Plaza, 39 Highway 7, Suite 232

Ottawa, Ontario K2H 8R2 Canada

### The Toolbox

**PDP-11 Operating System:** CTS-300, Idris™, RSTS, RSX, RT-11

**Keywords:** • Programming tools • Source code control

This collection of programmer's utilities is available in source form only and is written for the Whitesmiths' C compiler. Included are cross-reference and source listing programs with #include and #line processing. Line numbers match the Whitesmiths' error listings. "Sort" is a simple alphabetic sort. The sort function is "plug-compatible" with Whitesmiths' sort but is not stack intensive. "Col" prints multiple columns on a page. "Print" paginates listings with margins at the top and bottom of a page. "Crt" scrolls forward through a text file, one CRT screen at a time. The Toolbox Plus adds programs to read CP/M and UCSD p-System™ SSSD 8" floppies. These two programs run only on systems that open the whole floppy as a file (they will not work on CP/M).

Idris™ is a trademark of Whitesmiths, Ltd. UCSD p-System™ is a trademark of University of California Regents.

A version of this product is available for VAX computers.

**Price:** \$60 – \$80

**Contact:** Jeffrey Taylor  
(916) 753-5040

THE TOOLSMITH

139 G Street M/S 151  
Davis, CA 95616

### TRACE.MAC/TR.MAC

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Device drivers/handlers  
• Programming tools

These two programs are debugging tools for writing assembly language programs. When implemented and directed to do so, either program will, after executing an instruction in a section of code being traced, print out the location in memory of that instruction, its mnemonic and arguments, and the contents of all registers and memory locations referred to. TRACE/TR then returns to the traced program for the next instruction. The resulting output is a listing of what instructions were executed and what happened.

TRACE.MAC is a subroutine that must be linked in with the program to be traced and be initialized by it.



TR.MAC is a pseudo-device driver that is assembled and linked to TR.SYS, then entered into the monitor device driver tables. The user does not have to link TR.MAC into the main program each time.

Both versions can be modified to direct their output to the LP: rather than to the console device. DECUS number 11-215.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### Tracer C Debugger

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Debugging • Programming tools

This tool simplifies the debugging of C programs when the program compiles correctly, but the cause of incorrect results or execution errors is not immediately apparent. Tracer runs in two modes, each producing valuable output for programmers and managers to analyze C code quickly. Source analysis mode shows questionable, nonportable, or wasteful code segments; variable type-usage conflicts; and unused variables and functions. The run-time analysis mode shows the programmer the names and new values of variables when they are changed; the names and values of functions and arguments upon entry as well as the name of the caller; labels of statements when they are executed; and execution of if/else, while, do, and case statements.

The amount of diagnostic information produced by Tracer is determined by the options specified by command line switches and in a #trace statement in the source program. Information may vary from a short trace of one variable for a span of only a few statements to a full trace of a complete program. Output can be sent to any file or device.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$6000

**Contact:** Sales Department  
(415) 494-7500

IPT CORP.

1096 East Meadow Circle  
Palo Alto, CA 94303

### TRAMP for RSX-11 and RT-11

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Application development • Compilers  
• Forms management • Menu handlers

Memory required: 58KB for each.

TRAMP software contains the tools for developing menu-controlled applications, form applications, and report applications. TRAMP brings the speed, convenience, accuracy, and low cost of computerized processing to users accustomed to building the same kind of controlling mechanism more than once.

Menus, forms, and reports are designed by the use of a description language. TRAMP associates constant data with the menu, form, and report layout — not with the application program. The result is simplified application program maintenance and increased application program flexibility. Menu, form, and report layout parameters can later be modified without the need to recompile the application program. A complete set of program documentation is provided. DECUS number 11-692 (RSX) or 11-693 (RT-11).

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **TTLIB: VT100 Library Routines**

**PDP-11 Operating System:** RT-11

**Keywords:** • Graphics • Software utilities

This library of programs conveniently controls a VT100 terminal in ANSI mode. The package contains the sources for and a constructed library of TTLIB, along with the manual TTLIB.DOC. Routines are available for drawing boxes and lines, cursor positioning, controlling screen appearance and video attributes, screen and line clearing, governing screen and keyboard behavior, using graphics facilities, adjusting assorted heights and widths, setting and clearing tabs, and reporting cursor position.

The Version 2 release includes TTXCON and TTXOFF and has interfaces for programs written in C for the DECUS C compiler (DECUS number 11-SP-18).

TTLIB may optionally be set up to be combined with CVLLIB, a general-purpose library. The .COM files and TTLIB.OBJ files in this package have been set up for a free-standing library — the routines WDT and CSVN are included. DECUS number 11-495.

Note: Extra routines, bug fixes, and the addition of interface routines for C programs are provided.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **TTLIB: VT100 Library for the Professional 300**

**PRO Operating System:** RT-11

**Keywords:** • Graphics • Software utilities

TTLIB is a library of programs to conveniently control a VT100-type terminal in ANSI mode. Routines allow drawing boxes and lines, cursor positioning, screen appearance, video attributes, screen and line clearing, screen and keyboard behavior, graphics facilities, assorted heights and widths, tab settings and clearings, and reporting cursor position.

Routines are provided for FORTRAN- and MACRO-calling programs. Because TTLIB is a library, only the routines that are used are loaded into the user's programs. DECUS number PRO-105.



**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **UMDL (Universal Microprocessor Development Laboratory)**

**PDP-11 Operating System:** Micro/RXS, RSX, RT-11

**Keywords:** • Debugging • Microprocessor development  
• Programming tools

This tool defines the personality of a microprocessor in software and is used with Compu-Mech's CD1000 Microprocessor Development Instrument. UMDL performs 8/16-bit universal emulation, input stimulus generation, 48-channel bus-state analyzing, and EPROM/EEPROM programming from a VAX or a PDP-11.

The bus-state analyzer function can debug any microprocessor; thus, the target processor need not be emulated. Optional transparent software for debug and disassembly is available for traditional in-circuit emulation functions, such as breakpoints, RAM changes, and so forth. More than 30 microprocessors are fully supported.

The development instrument uses a standard RS232 interface with the host VAX or PDP-11 and uses a ROM socket interface for the target systems.

A version of this product is available for VAX computers.

**Price:** \$1200 - \$1600

**Contact:** Gary Ruff

(419) 535-6702

COMPU-MECH, INC.

5242 Angola Road, Suite 75

Toledo, OH 43615

### **UNIFY Relational Data Base Management System**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Application development • Data base management

This multiuser, menu-driven, and fully interactive UNIX\* relational data base management system supports up to two billion records over eight physical devices. UNIFY provides a complete range of application development tools, including a menu handler, automatic data entry, query by forms, a report generator, and a structured query language (SQL) based on IBM's SEQUEL 2 relational query language. A host language interface, compatible with C and RM/COBOL, is also provided.

UNIFY offers multiple data access and raw file I/O capability for fast performance while requiring a minimum memory configuration of only 384K bytes and four megabytes of disk space.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** \$1495 - \$14,500

**Contact:** Corporate Sales and Marketing  
(503) 635-6265

UNIFY CORP.

4000 Kruse Way Place, Building 2, Suite 255  
Lake Oswego, OR 97034

### UNIX\* Utility Pack

**PDP-11 Operating System:** Independent, ULTRIX-11

**Keywords:** • Programming tools • Software utilities

This package contains utility programs that are helpful to UNIX\* users. Each program is accompanied by a manual page or a user document. The utility programs are:

- Eh? (Extra Help) is an interactive help file system that provides a simpler interface than the UNIX\* "man" command.
  - Check checks files for characters that are not normally included in text files and simplifies locating unwanted characters in files.
  - Env prints the names and values of the current environment variables.
  - Fd displays directory contents in columns across the screen. Directory files are highlighted to distinguish them from other files. An option allows complete file details to be displayed.
  - Fed is a binary file editor that allows binary files to be displayed and edited in a full-screen mode.
  - Fret retrieves file contents by i-node number and may help salvage files after a system crash.
  - Inform adds or deletes tabs from files, strips trailing blanks, and deals with overstrikes on CRT terminals in a useful way.
  - Net is a hierarchical information management program.
  - Obershell provides (last) command recall and editing, command and file name recognition, and aliasing.
  - Ptty is a friendly, extended STTY program.
  - Rdx, a front end for ed, provides a macro capability and allows you to select a range of lines for screen editing. All ed commands are passed through to ed.
  - Whichbin finds a command accessible through the current search PATH and reports its path name.
  - Xam examines files and provides facilities for paging up and down through text files and for string searching. Xam accepts a list of files and allows you to go back to previous files for reexamination.
- \* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** \$200

**Contact:** Douglas Ross  
(613) 548-4355



ANDYNE COMPUTING LTD.  
544 Princess Street, Suite 202  
Kingston, Ontario K7L 1C7 Canada

## **USER-11 Database Management System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Data base management  
• File management • Programming tools

Memory required: 256K bytes minimum.

This high-performance data base management system and application development tool consists of more than 20 integrated, parameter-driven modules that can be quickly and easily combined and modified. USER-11's powerful file accessing retrieves any disk record in two disk accesses. USER-11 offers security surpassing that of the DIGITAL operating system. User passwords can be encrypted. Users can selectively be locked into application menus, preventing access to system-level resources. USER-11 is for both advanced software designers and end users. Software designers have program generators that can build custom code or interface with other language-level facilities. End users have functions or procedures that lead, step by step, to the information. Reporting capabilities range from simple, default-driven end-user requests to sophisticated, multiple-data base, custom-formatted reports with complex mathematical functions.

USER-11 is written in BASIC-PLUS-2 and MACRO.

A version of this product is available for VAX computers.

**Price:** \$7500 - \$48,000

**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006

USERWARE INTERNATIONAL

2235 Meyers Avenue  
Escondido, CA 92025

## **User Command Linkage-Plus**

**PDP-11 Operating System:** RT-11

**Keywords:** • Programming tools • Software utilities

Memory required: 8872 words.

This user command linkage program works with RT-11 Version 5 and later monitors and TSX-PLUS.™ The program allows dynamic, on-line definition of user commands, or "symbols," and is upwardly compatible with the UCL program distributed with RT-11 Version 5.01.

An "execute-immediate" mode provides for commands that are defined in terms of other UCL-Plus commands. Multiple symbol definitions in a single command line can be deleted. Optional chaining to additional UCLs is included. A user-definable "run-by-name-path" extends the RT-11 run-from-SY: default. Provisions to STORE/RECALL program settings to and from a separate .UCL file have been made. A PASS-ON

command allows you to force UCL-Plus to pass a command string to the next UCL in the chain.

Command expansions can be displayed with or without execution. The DISPLAY command can also be used to output predefined ASCII strings to the console, the printer, or some other device/file.

Built-in "hard-wired" commands include a DCL-style RNO command for the DECUS RUNOFF program. The system accepts lowercase input and most control characters. List output can be directed to devices/files other than the console. The source text and instructions are included to create an on-line help facility for UCL-Plus. DECUS number 11-746.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## User Command Linkage-Plus for the Professional 300 Series

**PRO Operating System:** RT-11

**Keywords:** • Data entry • Real time

This user command linkage program allows dynamic, on-line definition of user commands (or "symbols") and is upwardly compatible with the UCL program distributed with RT-11 Version 5.01. Among the extended features are an "execute-immediate" mode for commands that are defined in terms of other UCL+ commands, deletion of multiple symbol definitions in a single command line, optional chaining to additional "UCLs," a user-definable "run-by-name path" that extends the RT-11 "run-from-SY:" default, a provision to STORE/RECALL program settings to and from a separate "UCL" file, and a PASS ON command that allows you to force UCL+ to "pass-on" a given command string to the next "UCL" in the chain (the default mode) or to a program that you specify and a DISPLAY of command expansions with or without execution. DECUS number PRO-126.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## USERBASICS

**PRO Operating System:** P/OS

**Keywords:** • Calculation aids • Graphics • Printing  
• Software utilities

This package contains several programs that run on any PRO-325 or 350 that has PRO-BASIC. VTPLOT plots X-Y data and does polynomial curve fitting. Up to 5 curves containing 50 X-Y data pairs each can be plotted on the same set of axes. USELA50 is a menu-driven printing program that allows the user to select vertical and horizontal pitch and various other attributes on the LA50 printer and to print documents or data files. MERGEFILES merges two or more files. AMORTIZE calculates amortized loan schedules, based on the amount borrowed, interest rate, and number of payments. MOLWT calculates



molecular weight from a molecular formula and weight percent of each of the atoms. The formula is entered exactly as it would be written, that is, NaCl for sodium chloride. TYPRINT prints directly to an LA50 from a keyboard. Each line is printed after the RETURN key is hit. TEXTMOD finds character strings in a BASIC program and can do substitution for all occurrences of the string, list lines that contain the string, list line numbers that contain the string, and print transactions as they occur. DECUS number PRO-102.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **VFM (Viking Forms Manager)**

**PDP-11 Operating System:** Micro/RSX, RSX

**PRO Operating System:** P/OS

**Keywords:** • Data entry • Forms management  
• Programming tools • Software utilities

VFM, written in C, simplifies the creation, maintenance, and operation of interactive programs. Instant "fill-in-the-blanks" data input is accomplished through the following VFM features:

- VFM Forms Development Facility creates and modifies screen formats, or "forms," apart from the program logic. These forms are linked with the application program, and appropriate documentation is automatically generated.
- VFM Subroutines Library allows the programmer to address all the data on a terminal screen as a single, logical record. The operator is supported with a wide range of special function keys and instant data validation.
- VFM Exerciser tests the human engineering and validation features to ensure that forms are logical, efficient, and visually pleasing.

VFM interfaces with a wide variety of CRT terminals from many manufacturers. VFM reduces programming costs and increases efficiency.

A version of this product is available for VAX computers.

**Price:** \$600 - \$8000

**Contact:** John R. Haley  
(918) 745-6550

VIKING SOFTWARE SERVICES, INC.  
2815 E. Skelly Drive, Suite 816  
Tulsa, OK 74105

### **VISUAL/menu**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Application development • Forms management  
• Menu handlers • Programming tools

This UNIX\* interface software masks the complexity of an operating system from end users yet provides developers with visually oriented tools for constructing complete user interfaces. VISUAL/menu provides menus to select application functions, forms for fill-in-the-blank

data entry, and understandable help messages. Multilingual options are also available.

Developers use VISUAL/menu to organize a hierarchy of menus, forms, and actions. Users can paint menus, forms, and help instructions, using a visual editor, which is keystroke compatible with vi. Users can integrate actions incrementally into the application system.

VISUAL/menu features a full-screen visual editor to paint menus and forms, an internal data dictionary, a graphics editor to construct and display the interface hierarchy, and a monitor to debug applications.

A version of this product is available for VAX computers.

**Price:** \$295 – \$3995

**Contact:** Jeff E. Spencer  
(313) 665-8778

COMPUTERIZED OFFICE SERVICES INC.  
313 North First Street  
Ann Arbor, MI 48103

### **VRTARY (Virtual Array Access Routines for RT-11 and TSX-PLUS)**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Application development • Programming tools  
• Software utilities

VRTARY contains routines for declaring, accessing, and eliminating a 2-dimension array in extended memory. The routines are written in MACRO-11 and follow the FORTRAN subroutine calling protocol. The size of the array is limited only by the amount of memory available. The number of elements in the array is limited by the size of the array and the size of each element. Access to the array is through a local buffer in the calling program; that buffer must be capable of holding a single row or column of array elements. DECUS number 11-788.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **Wittenberg University Utility Package**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Programming tools  
• Software utilities • Statistics

Memory required: Largest program is 12K.

- SETUP.BAS generates a standard BASIC-PLUS outline program with major program divisions.
- PASWRD.BAS changes passwords and/or quotes for either single accounts or groups of accounts.
- MESSAGE.BAS allows the user to send a message to any other user on the system.



- ACTSYS.BAS recreates the ACCT.SYS file to reflect the accounts on the system.
- ACOUNT.BAS prints out the accounting information that MONEY does but presents the information in more meaningful terms, with percentages of totals for each value.
- LOGACT.BAS is a log-in and KB: usage analysis program.
- KBMON.BAS, when used with KBUSE.BAS, monitors the terminals on the system, collecting connect time for each terminal and checking for unattended terminals.
- KBUSE.BAS reports on KB: usage, using the data collected by KBMON.BAS.
- FILSET.BAS sets up and allows modifications to some system information files that ACOUNT.BAS, LOGACT.BAS, KBMON.BAS, and KBUSE.BAS use.
- LOGIN.BAS is the 6C release of LOGIN, with modifications to collect the log-in data used by the ACOUNT.BAS program, with two levels of message printing to all users upon log-in (NOTICE.TXT and IMPORT.TXT), and with the automatic printing of any MESSAGE.TXT within the user's account.
- REACT.BAS is the 6C release of REACT.BAS, with modifications to allow the entering or deleting of a group of accounts within a project number.

DECUS number 11-282.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## X-TOOLS

### PDP-11 Operating System: RSX

**Keywords:** • Compilers • Debugging  
• Microprocessor development • Programming tools

X-TOOLS consists of four modules: the Structogram Editor (X-TOOLS-E), which structures and edits programs; the Precompiler (X-TOOLS-P), which checks syntax and semantics; the Source Texter (X-TOOLS-S), which converts the structogram into compilable source code; and the Structure Transformer (X-TOOLS-T), which services old or existing programs. The structogram editor allows you to modify your structograms. In the design phase, the structures can contain detailed comments. Development in the structogram proceeds top-down to the language-dependent statement level. The source text is generated from the structogram automatically.

The interactive compiler performs syntax checks for the Pascal-86, C86, and PL/M-86 languages; indicates errors with the cursor and explains them verbally; and enables you to correct them directly in the structogram with the aid of the structogram editor.

The source texter takes the structure and the inserted statements from the target language and turns them into PL/M-86, Pascal, C, BASIC, FORTRAN, or COBOL sources. The structure transformer takes existing source text and creates structogram files that can be further

processed, using the structogram editor. Those files and ultimately the printed structograms replace the source texts.

In the United States, contact Jean Sylwanowicz, RTCS, Unit E, Camarillo, CA 93010 (805-987-9781) or Simon Wieczner, Boston Systems Office, 128 Technology Center, Waltham MA 02254-9164 (617-894-7800).

A version of this product is available for VAX computers.

**Price:** \$195 - \$9000

**Contact:** Peter Barski  
911-437067

AID GMBH

Bauernfeindstrasse, 55d

Nuremberg 50 D-8500 West Germany

### XFORM

**PDP-11 Operating System:** IAS, Micro/RSTS, Micro/RSX, RSTS, RSX, RT-11, ULTRIX-11

**Keywords:** • Forms management • Programming tools

This library of subroutines provides terminal-independent screen forms and video I/O. XFORM also includes an interactive menu-driven screen form editor. A screen form consists of background text, such as prompts, headings, and titles and fields for input and output. A field has processing attributes, a default value or missing value, and error-checking attributes.

Screen forms can be either disk resident or memory resident. The application program can use more than one screen form on the video terminal at a time. Screen forms can be used interactively on a video terminal or printed (with field values).

The screen form editor supplied with XFORM is an interactive menu-driven utility for creating and modifying screen forms. Screen form text is edited on the terminal screen exactly as the form will appear when used; field attributes are specified through fill-in-the-blank forms. Hard-copy documentation of screen forms can be produced at any time. The specifics of screen forms, field attributes, and even the terminal model are isolated from the application program, so changes made in any of those areas usually require no program maintenance.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Stephen F. Heffner  
(609) 737-2727

PENNINGTON SYSTEMS INC.

65 S. Main Street, Building C

Pennington, NJ 08534



# Distribution



POSITIVE IMAGES/Jerry Howard

## **ACCDIBS (Accountant DIBS — Turnkey)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Wholesale

ACCDIBS is the DIGITAL DIBS-11 multiuser wholesale distributor's accounting package. All modules have been enhanced and integrated to produce a turnkey installation. With the enhancements, the DIBS-11 package needs virtually no programming. Module stand-alone capabilities are the same as in the original DIBS-11 package. The system includes ACCDIBSAP (Accountant DIBS Accounts Payable), ACCDIBSAR (Accountant DIBS Accounts Receivable), ACCDIBSGL (Accountant DIBS General Ledger), ACCDIBSIO (Accountant DIBS Inventory and Order Entry), ACCDIBSPR (Accountant DIBS Payroll), and ACCDIBSSA (Accountant DIBS Sales Analysis).

**Price:** \$1500 — \$11,500

**Contact:** Paul Duda, Vice President, Marketing  
(614) 846-3427

VERTEX SYSTEMS CORP.

1395 E. Dublin-Granville Road, Suite 301  
Columbus, OH 43229

## **ACCDIBSAP (Accountant DIBS Accounts Payable)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Accounts payable • Wholesale

This multiuser accounts payable package can be used stand alone or be integrated with the rest of ACCDIBS, the DIGITAL DIBS-11 wholesale distributors' accounting package. Turnkey, menu-driven ACCDIBS provides vendor file maintenance with numerical and alphabetical listings; prepaid checks and partial payments; checks printed with voucher; printed edit lists and pre-check-writing reports; inquiry; distribution to General Ledger (ACCDIBSGL) and listing of G/L distribution; support for spooling, multiple users, and multiple departments/branch offices; check reconciliation and report; a cash-requirements report; entry error checking; journalizing of all posting and disbursement activity; and telecommunications support.

**Price:** \$1500

**Contact:** Paul Duda, Vice President, Marketing  
(614) 846-3427

VERTEX SYSTEMS CORP.

1395 E. Dublin-Granville Road, Suite 301  
Columbus, OH 43229

## **ACCDIBSAR (Accountant DIBS Accounts Receivable)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Accounts receivable • Wholesale



The Accountant DIBS Accounts Receivable package can be used stand alone or be integrated with ACCDIBS, the DIGITAL DIBS-11 wholesale distributor's accounting package. Turnkey menu-driven ACCDIBSAR provides open-item or balance-forward accounting by customer; aged trial balances that permit operator-specified dates; support for full and partial payments, adjustments, and refunds; statements on demand; aged trial balance with contact name and telephone number; automatic posting from invoicing, when integrated under ACCDIBS; customer inquiry; credit limit notice at order entry, when integrated with ACCDIBS; and support by telecommunications.

**Price:** \$1500

**Contact:** Paul Duda, Vice President, Marketing  
(614) 846-3427

VERTEX SYSTEMS CORP.

1395 E. Dublin-Granville Road, Suite 301  
Columbus, OH 43229

### **ACCDIBSGL (Accountant DIBS General Ledger)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • General ledger • Wholesale

This package can be used stand alone or be integrated with ACCDIBS, the DIGITAL DIBS-11 wholesale distribution accounting package. Turnkey menu-driven ACCDIBSGL handles up to 9 departments and up to 13 account periods; requires balanced transaction posting before updating; has an update capability for any period; provides account inquiry and a working trial balance; produces financial reports, balance sheets, and income statements; provides automatic updates from ACCDIBS packages and a system-maintained transactions history; has a security system; provides for listing and maintaining a chart of accounts; accommodates budgeting; and provides a report writer for flexible financial reports and support by telecommunications.

**Price:** \$2000

**Contact:** Paul Duda, Vice President, Marketing  
(614) 846-3427

VERTEX SYSTEMS CORP.

1395 E. Dublin-Granville Road, Suite 301  
Columbus, OH 43229

### **ACCDIBSIO (Accountant DIBS Inventory and Order Entry)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Inventory • Order processing  
• Wholesale

This module can be used stand alone or be integrated with ACCDIBS, the DIGITAL DIBS-11 wholesale distributor's accounting package. Turnkey menu-driven ACCDIBSIO provides flexible order entry and pricing structures (discount by customer, item, and quantity), as well as order correction before invoicing. The program handles issues/receipts and back orders, produces picking slips by warehouse

location, flags credit limit exceeded (when integrated with ACCDIBSAR), and allocates items in inventory. ACCDIBSIO generates packing slips and stock status reports, with critical items flagged, as well as perpetual physical inventory, ship-to and price override, substitute items, and inquiry by customer and item; keeps invoice copies, including paid invoices, until operator removes, facilitates accounting and item groups; and provides support by telecommunications.

**Price:** \$3700

**Contact:** Paul Duda, Vice President, Marketing  
(614) 846-3427

VERTEX SYSTEMS CORP.  
1395 E. Dublin-Granville Road, Suite 301  
Columbus, OH 43229

### **ACCDIBSPR (Accountant DIBS Payroll)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Payroll • Wholesale

This package can be used stand alone or be integrated with ACCDIBS, the DIGITAL DIBS-11 wholesale distributor's accounting package. Turnkey menu-driven ACCDIBSPR provides all file maintenance capabilities, as well as federal, state, and local tax capabilities; distributes labor to G/L or cost code; provides file-driven tax tables for flexibility; produces workers' unemployment history; reports 941 and W-2 information; accommodates up to 15 deductions over variable periods, as well as negative deductions (on nontaxable pay); produces a payroll register; accommodates multiple pay periods (weekly, biweekly, monthly, and so on); and provides support by telecommunications.

**Price:** \$1500

**Contact:** Paul Duda, Vice President, Marketing  
(614) 846-3427

VERTEX SYSTEMS CORP.  
1395 E. Dublin-Granville Road, Suite 301  
Columbus, OH 43229

### **ACCDIBSSA (Accountant DIBS Sales Analysis)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Sales analysis • Wholesale

The Accountant DIBS Sales Analysis package can be used stand alone or be integrated with ACCDIBS, the DIGITAL DIBS-11 wholesale distributor's accounting package. Turnkey menu-driven ACCDIBSSA provides ABC analysis; sales and profit by salesperson, item, and customer; reports for calculating salespersons' commissions; discounts taken; write-downs by salesperson; and sales by item usage.

**Price:** \$1500

**Contact:** Paul Duda, Vice President, Marketing  
(614) 846-3427



VERTEX SYSTEMS CORP.  
1395 E. Dublin-Granville Road, Suite 301  
Columbus, OH 43229

### **Accountant II Inventory Control System**

**PDP-11 Operating System:** RSX

**Keywords:** • Inventory • Order processing • Purchasing

This system, which works with the Accountant II Order Entry System, monitors the movement of merchandise from ordering to receiving. The system's inquiry capabilities let you display merchandise on hand and on order, quantity allocated to unshipped orders, pricing, costs, and vendor information. A purchasing and receiving function accepts order information, prints and tracks purchase orders, and updates inventory. A physical-inventory subsystem reports physical-inventory data. Standard reports monitor inventory levels and movements for management; a low-inventory-level report, an inventory movement (detail and summary) report, omission reports, purchase orders, open purchase order lists, receiving reports, and physical-inventory reports are also produced.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$4000

**Contact:** Richard Northrup, Sales Director  
(212) 221-2517

COMPUTRON BUSINESS SOLUTIONS, INC.  
701 Seventh Avenue, Suite 9W  
New York, NY 10036

### **Accountant II Order Entry System**

**PDP-11 Operating System:** RSX

**Keywords:** • Billing • Inventory • Order processing

This system includes inventory allocation, invoicing, automatic back ordering, variable pricing, and prebilling or postbilling operations. The system provides for variable discounting structures, special pricing, separate bill-to and ship-to addressing, variable salesperson commissions, and special terms. Normal default options established for each customer can be changed at order entry time for a particular order. All orders are verified against available inventory at order entry. Out-of-stock conditions are immediately known so that substitutions can be made. All items ordered are reserved to prevent overallocation of stock. The system provides warehouse picking documents, including a short-form Straight Bill of Lading; invoices, open-order lists; daily invoice registers; and out-of-stock reports.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$4000

**Contact:** Richard Northrup, Sales Director  
(212) 221-2517

COMPUTRON BUSINESS SOLUTIONS, INC.  
701 Seventh Avenue, Suite 9W  
New York, NY 10036

### **Accountant II Purchasing System**

**PDP-11 Operating System:** RSX

**Keywords:** • Inventory • Order processing • Purchasing

This purchasing system accepts order information, prints and tracks purchase orders, and updates the inventory when the orders are received. The receiving function is performed on line on an exception or a blind receiving basis.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$4000

**Contact:** Richard Northrup, Sales Director  
(212) 221-2517

COMPUTRON BUSINESS SOLUTIONS, INC.  
701 Seventh Avenue, Suite 9W  
New York, NY 10036

### **AIM (Automatic Inventory Management)**

**PDP-11 Operating System:** Micro/RSX, RSX

**Keywords:** • Bar coding • Inventory • Materials handling  
• Warehousing

AIM is a turnkey system for the nonautomated warehouse. By using the principles of material-handling control and inventory management developed in automatic warehousing, Micro-AIM provides the rigorous control and data handling necessary for a high degree of accuracy in managing the conventional warehouse. The basic system provides functions to identify and verify product receipts, makes stock storage and retrieval decisions, and provides complete management reports. The system can be expanded to include bar code printing/reading, mobile radio-linked terminals, host interfacing, and other special functions.

A version of this product is available for VAX computers.

**Price:** \$75,000

**Contact:** Ronald L. Reimink  
(313) 973-7875

ANN ARBOR COMPUTER, DIVISION OF JERVIS B.  
WEBB CO.  
1201 E. Ellsworth  
Ann Arbor, MI 48104

### **AIM/FOD (Accounting Information Manager for Fuel Oil Delivery)**

**PDP-11 Operating System:** BOS/5, MBOS/5

**Keywords:** • Accounts receivable • Inventory • Petroleum

Memory required: 64K.



Designed for use by small fuel oil delivery companies, the flexible, easy-to-use AIM/FOD system includes all accounts receivable operations, with open-item or balance-forward accounting, and contains delivery ticket operations suitable for ticketing by degree day or by calendar day. This multiuser system also includes a liquid inventory. Complete user documentation is provided.

Access to all AIM programs is password protected.

**Price:** \$2400

**Contact:** Maria Rich

(315) 337-1000

MULTICEPT CORP.

1721 Black River Boulevard

Rome, NY 13440

### **Apparel Master™**

**PDP-11 Operating System:** XENIX™

**Keywords:** • Accounting • Manufacturing • Sales analysis  
• Textiles/clothing

This apparel distribution and accounting system for wholesalers, importers, and manufacturers offers order entry, pick and pack, shipping and invoicing, and sales analysis. Size/style/color/season/multiple bill-to, ship-to, and so forth are provided. Optional accounting modules include accounts receivable, accounts payable, and general ledger. This system automates the distribution cycle from receipt of goods to accounts receivable. The software is available for most mini- or microcomputers.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$5000 - \$15,000

**Contact:** Matthew B. Brosious

(212) 221-3016

COMPUTER MASTERS INTERNATIONAL CORP.

39 West 38th Street

New York, NY 10018

### **APPGEN Inventory/Order Entry**

**PDP-11 Operating System:** XENIX™

**Keywords:** • Inventory • Order processing • Purchasing  
• Warehousing

This system handles inventory by automatically generating information, providing a comprehensive master file, and allowing flexible pricing. This system interfaces to the Accounts Receivable system.

Inventory Management can perform multiwarehouse and company-wide tracking and can generate back-order information by item and customer. The system lists same-as, alternate, and complementary items. Invoices, credit memos, and picking tickets are generated as

needed. Sales reports include sales analysis by product category, customer name or type, salesperson, or state and purchasing advice reports based on reorder level and quantity, including lead times and cycle turnover data. Other reports include an on-demand report of the cash value of present inventory, a stock status and history report, a stock status inquiry, and packing lists by picking sequence.

The master file handles quantity on hand, which is updated as stock is increased or depleted; receipts; transfers in and out; and returns. Sales quantity, physical adjustments, committed quantity, on-order quantity, dollar sales, and cost of sales are also included.

A flexible pricing ability allows automatic recalculation of average cost of inventory items when new receivings are entered. Virtually unlimited price-class coding is provided at the inventory-item and customer-classing levels. The system prints multiple price lists and automatically performs rollover on the effective date for new pricing.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$600

**Contact:** Sales Department  
(713) 974-2298 or (800) 231-0062  
SOFTWARE EXPRESS  
2925 Briarpark Boulevard, 7th Floor  
Houston, TX 77042

### **Automatic Business Control System**

**PD-11 Operating System:** RSTS

**Keywords:** • Cost accounting • Forecasting • Inventory  
• Planning aids

This system forecasts, plans, and controls sales, inventories, and procurement of all salable (inventory) items. A monthly detail of all transactions that affect inventory balances (sales, receipts, transfers, and adjustments) is maintained for all inventory items. A plan and a forecast are automatically reset for each item monthly, and a buying plan is automatically reset weekly.

The system writes purchase order records for all stock items, prints a line-buy weekly summary, prints purchase orders after buyer approval, and writes an accounts payable transaction record in abeyance of receipt of material and vendor invoice. The Automatic Business Control System posts and distributes vendor invoice and associated freight charges to general ledger (inventory) accounts, produces A/P open-item and G/L account distribution detail records, and maintains a 2-year sales forecast, inventory, and procurement (requirements) plan for each stock item.

The system offers many reports, a line-buy plan for the next three months (monthly), instantaneous gross cash flow (monthly), and a product-requirements plan for the next four quarters (quarterly).



**Price:** \$100,000 – \$500,000

**Contact:** Robert G. Donkin, President & ABC Systems Engineer  
(918) 627-6214

**AUTOMATIC BUSINESS CONTROL SYSTEMS**

5408 East 38 Street

Tulsa, OK 74135

**CHIPS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Inventory  
• Order processing • Purchasing

This comprehensive inventory management and order processing system, written in DIBOL, allows wholesalers to handle a large number of special and rush orders. Orders can be entered for items that are not in the inventory master file and can be processed along with regular items. The primary modules are Order Entry, Purchasing, Order Receiving, Invoicing, Accounts Receivable, and Sales Analysis. The Purchasing system allows the purchasing agent to inquire about needs by vendor code, customer, or order priority. The Order Receiving system allows quick entry of received orders and automatically generates invoices for back-ordered items. CHIPS is used by distributors with up to \$25 million annual volume.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$35,000

**Contact:** Ralph Gordon  
(502) 683-6287

**DIGITAL GROUP, INC.**

425 Leitchfield Road

Owensboro, KY 42301

**Customer Order Processing**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**Keywords:** • Credit • Order processing • Sales analysis  
• Wholesale

This system, developed by MCBA/CSA, provides on-line entry and editing of customer orders and credit memos, allocation of inventory at time of entry, entry of order and line item discounts, on-line credit checks and inventory availability checks as orders are entered, and automatic handling of back orders. Other features include support for distribution from multiple warehouse locations, selective and partial billing, multiple prices for an item, mass price changes, printed reports of products sold by customer and customers by products sold, and automatic collection and printing of sales history, with prior-year comparatives. This system interfaces to five other CSA packages.

A version of this product is available for VAX computers.

**Price:** \$2400 - \$2640

**Contact:** William Ferris  
(203) 735-1819

COMPUTER SOFTWARE ASSOCIATES

366 Main Street, P.O. Box 492

Ansonia, CT 06401

### **DACMS (Distribution and Cash Management System)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Inventory • Order processing • Purchasing

DACMS provides a fully integrated series of program modules: Purchasing, Material Management, Order Processing, and Cash Management. Designed through years of user interaction, the system includes more than 50 application programs for any business that needs clear, informative inventory and cash management reports. Available for fast, efficient, trouble-free installation, DACMS is a turn-key system, providing efficient transfer from your current system to DACMS.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** George B. Weaver, P.E.  
(612) 571-1249

WEAVER & ASSOCIATES, INC.

928 Rice Creek Terrace

Minneapolis, MN 55432

### **Daymark Wholesale Distribution System**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Accounting • Inventory • Purchasing  
• Wholesale

This comprehensive interactive series of programs for food, poultry, and fish distribution gives management control of the distribution environment. Menu orientation makes this system easy to learn and simple to use, and it operates on a single- or a multicompany basis.

Daymark provides for order entry, picking, truck routing, invoicing, sales analysis, inventory control (by catch weight), purchasing, accounts payable, accounts receivable, general ledger, and analysis reports that track sales, profit, and movement of product by vendor, by customer, by chain, by territory, and by salesperson.

Daymark features:

- Product sales, on order, returns, counts, receipt, restocking, price book, and out of stock by customer management
- Truck load control by case/pack and weight/size/average
- Production of picking slips by bin location, by customer, by truck, or by route
- Invoicing for random-weight items and automatic and special pricing



- Twenty-six selling prices for each item
- Optional dunning and/or promotional messages
- Daily gross profit report by customer and products

A version of this product is available for VAX computers.

**Price:** \$3995 – \$15,995

**Contact:** Gary L. Grierson  
(513) 236-7072

DAYTON DATA PROCESSING, INC.

60 Heid Avenue

Dayton, OH 45404

### **DECTap Tailored Application Programs: Wholesale System**

**PDP-11 Operating System:** None required

**Keywords:** • Manufacturing • Wholesale

The DECTap System is a group of multiuser business data processing software systems serving hard-goods wholesale distributors. The DECTap Base System supports order processing, inventory control, sales analysis, and accounts receivable. The DECTap Wholesale System interfaces with the accounts payable, general ledger, fixed assets, payroll, and purchase order control modules. The DECTap Manufacturing System modules for order management, inventory management, product data management, and shop floor control and costing also can be installed with the DECTap Wholesale System. The Base System, which is a prerequisite for the application systems, provides a menu control facility, an access security facility, a report writer for defining custom reports, a mass-change facility for manipulating data files, a disk backup utility, a tailoring facility, and system control software.

The DECTap System software offers an easy-to-use, interactive tailoring facility that involves answering questions about the user's business operations. Computer-based instruction for application system operation is provided. Users progress at their own rate and can control their learning material.

The DECTap Base System is prerequisite for any of the application modules. DECTap Order Processing requires installation of DECTap Inventory Control and DECTap Accounts Receivable. DECTap Sales Analysis requires installation of DECTap Order Processing.

DECTap customer documentation consists of a system operations manual, a system manager's guide, and a user's reference manual for each application module.

Refer to SPD #14.32.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$800 – \$2000

**Contact:** Consult your local DIGITAL sales office (see Introduction).

**DIBS-11/UK****PDP-11 Operating System:** CTS-300**Keywords:** • Accounting • Wholesale

This multiuser wholesale distributor's accounting software package, written in DIBOL, comprises four accounting modules: Order Entry/Invoicing/Inventory, General Ledger, Accounts Receivable, and Accounts Payable. Each module can be used as a stand alone except Order Entry, which needs Accounts Receivable. DIBS-11/UK is designed to run with the other accounting modules/systems when used with the DIBS-11/UK Account Group integrator. Each module can be integrated with the rest of the system for data input and verification.

The package is a base on which to build vertically marketed application packages. DIBS-11/UK is divided into routines by function for ease of maintenance and modification.

Documentation consists of a user's guide, complete with conversion forms to DIBS-11/UK; program explanations; and detailed step-by-step operating instructions. The applications summary covers system-level aspects of the software, inclusive of report, screen, file layouts, and data entry specifications. The site manager's guide covers day-to-day housekeeping functions. The programmer's handbook helps a programmer live within the environment of the system. The handbook also contains subroutine descriptions and an index.

The DIBS-11/UK system uses the DIBS-11/UK standard menu driver subsystem; the account group subsystem, which is the path for data to get to the General Ledger; and DIBS-11/UK standard routines. The system uses the standard maintenance programs and tables (parameters, defaults, and verification for the nonintegrated systems).

Refer to SPD #12.54.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request**Contact:** Consult your local DIGITAL sales office (see Introduction).**Distribusyst (Distribution Management System)****PDP-11 Operating System:** RSX, RT-11**Keywords:** • Accounting • Financial analysis • Inventory  
• Order processing

Distribusyst is an interactive system that controls distribution activity, including order entry, inventory control, pick lists, checking, packing lists, inventory control, purchasing, and gross profit analysis. Distribusyst also manages accounting functions, including billing, sales analysis, accounts receivable, purchasing, accounts payable, payroll, general ledger, and financial reporting.

**Price:** \$9000 - \$18,000**Contact:** Harmon Houghton, President  
(201) 348-6688



EXTENDED TECHNOLOGIES CORP.  
1023 Boulevard East  
Weehawken, NJ 07087

### **Distribution — Wholesale and Retail**

**PDP-11 Operating System:** RSTS

**Keywords:** • Purchasing • Retail • Warehousing  
• Wholesale

This comprehensive set of modules is installed in a wide variety of major distributors. More than 12 years of experience in on-line commercial distribution is built into the packages.

Multiwarehouse, sophisticated inventory control, and sales management are integrated into financial accounting.

A version of this product is available for VAX computers.

**Price:** \$30,000 – \$100,000

**Contact:** Dr. E. A. Haworth  
(061) 248-7100

MANCOS COMPUTERS

3 Wynnstay Grove, Fallowfield  
Manchester M14 6XG United Kingdom

### **Distribution Management System**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Inventory • Order processing • Retail  
• Sales analysis

This interactive system allows one to process customer orders, keep inventory, create invoices, and store sales information. The system provides for price changes, cost calculations, inventory status, and sales data and supports sales history, gross profit, and inventory control. In addition, the system can integrate fully with the Accounts Receivable and General Ledger systems. The system greatly reduces time and effort in creating, shipping, and billing orders. Features of the system include:

- **Validation:** Data is validated when entered, thus increasing productivity and reducing the possibility of shipping the wrong product.
- **Control:** System accuracy is ensured through batch totals and data entry journals.
- **Management reports:** Order processing provides management and summary reports showing customer and inventory activity, helping the user plan and manage.
- **Integration:** Complete integration is provided with the general ledger through the Accounts Receivable System. Journal and general ledger account numbers are controlled by the user.
- **Manual override:** Automatic features can be changed by data entry operations.
- **Immediate updating:** The system identifies items on order, back ordered, reserve amounts ready for shipment, and items on hand.

- Credit control: Customer preset credit limit is used to control order entry.

A version of this product is available for VAX computers.

**Price:** \$3000/module – \$5000/module

**Contact:** E. Jackson Smith  
(301) 296-9032

SMITH, ABBOTT, AND COMPANY, INC.

300 E. Joppa Road

Baltimore, MD 21204

### **Distribution System (Wholesale/Retail)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Inventory • Warehousing  
• Wholesale

This comprehensive set of on-line interactive programs, written in BASIC-PLUS-2, helps manage distribution businesses in a more timely and cost-effective manner. The Distribution System includes Inventory Control, Customer Maintenance, Order Entry/Billing, Physical Inventory, Purchasing, Sales Analysis, Work Order Maintenance, Labor Reporting, Accounts Payable, Accounts Receivable, and General Ledger/Financial Reporting systems. Source code is available.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$60,000

**Contact:** Steven R. Simmerman  
(414) 784-8250

MCHUGH, FREEMAN AND ASSOCIATES, INC.

1135 Legion Drive, P.O. Box 454

Elm Grove, WI 53122

### **DOVETAIL Wholesale Distributor**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Order processing • Sales analysis  
• Wholesale

This turnkey package integrates order entry, shipping and billing, A/R, commissions, purchasing and receiving, A/P, and sales budgeting and analysis. All transaction batches are posted automatically to the companywide general ledger. The system generates pick lists by date, automatically placing orders on credit hold for credit limit or payment violations. During shipping, the Distributor automatically generates back orders or cancels, based on customer information.

DOVETAIL systems comprise a variety of modules sharing common procedures to access a common data base. All modules are accessed by an integrated menu offering on-line help for each option. All modules are controlled by tables allowing the system administration to define new discount types, customer groups, payment terms, and so on without programming. Thus, each system can be custom tailored with off-the-shelf software.



Query allows you to look up customer records, order status, inventory, and other information without having to know account number or other codes.

The Distributor is especially suited for inventories that come in size runs or groups, such as shoes, sporting goods, and clothing. Distributor can be integrated with DOVETAIL Job-Oriented Manufacturer for companies that manufacture what they distribute.

A version of this product is available for VAX computers.

**Price:** \$18,000 – \$34,000

**Contact:** Thomas Considine  
(617) 484-6814

CONSIDINE DIGITAL SYSTEMS  
490 Trapelo Road  
Belmont, MA 02178

### **DTRO BOMP (Bill of Materials Processor) System**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Bill of materials • Manufacturing

This integrated system operates in a manufacturing or assembly environment and provides bill of materials file building, file maintenance, and file inquiry through interactive user dialog, as well as an interactive where-used inquiry to show all products or assemblies that any given part or subassembly is used to make. The quantity needed is shown and, optionally, labor and machinery requirements. The system also features product explosion showing, for any product entered, all levels of subassembly and part or raw-material requirements. The availability of each assembly or part in inventory is checked. The materials cost for manufacturing one unit of the product and for the total order is computed; optionally, personnel and machinery requirements are totaled.

This system is part of CDMS (Comprehensive Distribution Management System). The purchase price includes 30 hours of support.

A version of this product is available for VAX computers.

**Price:** \$1500

**Contact:** Bill Benton

(415) 861-5454

DTRO SOFTWARE

1229 7th Avenue

San Francisco, CA 94122

### **DTRO CDMS (Comprehensive Distribution Management System)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Bill of materials • Forecasting • Inventory  
• Order processing

This system includes the following applications programs:

- Order Processing is a multilocation on-line system for entering sales orders into the computer and controlling the steps involved in picking and shipping the products and billing the customer. The system gives interactive access to all data on products, customers, suppliers, and open orders; sequenced pick lists showing ship quantity, back-order quantity, and so on; and extensive discounting and text-printing options in invoice printing.
- Forecasting makes forecasts based on the "exponential smoothing" method, a type of weighted averaging. Initial forecasts and associated factors are created by a program that places them directly on file. Special computation for slow-moving items is included, as are demand filters and tracking signals. Full or exception output is provided and is thoroughly tested.
- Inventory Management calculates the reordering requirement for every item in inventory, using the "service point" analysis approach. The resulting recommended-purchase report shows the target purchase needed to maintain service. Additional purchases before cost increases are analyzed to show the most profitable extra purchase. Fully discounted purchase orders are printed. The goods-receipt program is interactive.
- Bill of Materials Processor, used in selling kits, explodes products into component parts, checks availability of each assembly or part, and gives total product cost.

DTRO data base programs, written in COBOL, provide interactive access to customer, item, vendor, and bill of materials files. Dialogs for adding, deleting, changing, listing, and inquiring provide convenient, powerful file-management methods. A report generator is included. The purchase price includes 240 hours of support or customizing. A version of this product is available for VAX computers.

**Price:** \$12,000

**Contact:** Bill Benton

(415) 861-5454

DTRO SOFTWARE

1229 7th Avenue

San Francisco, CA 94122

### **DTRO Inventory Management System**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Inventory • Purchasing

The Inventory Management System, written in COBOL or BASIC, calculates the requirement for reordering every item in inventory, using the "service point" analysis approach. The resulting recommended-purchase report shows the minimum purchase needed to maintain management's service target. Additional purchases before announced cost increases are analyzed to show the most profitable extra purchase. The system accepts forecast updates from the Forecasting System and status information from the Order Entry System. Fully discounted



purchase orders are printed, including many user options for printing and commenting.

A flexible report generator, with 12 preprogrammed reports, is included. File extracts are simple to add. The DTRO approach has been tested on more than 200,000 items in major firms. The system is fully documented, with full support available for installation, training, consulting, and customizing. The purchase price includes 100 hours of support or customizing.

A version of this product is available for VAX computers.

**Price:** \$5000

**Contact:** Bill Benton  
(415) 861-5454  
DTRO SOFTWARE  
1229 7th Avenue  
San Francisco, CA 94122

### **DTRO Order Processing System**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Manufacturing • Order processing • Wholesale

This interactive, user-oriented, on-line system, written in COBOL, enters sales orders into the computer and then controls the steps involved in picking, shipping, and billing the products. Some major features are:

- Total interactive, multilocation access to all data on products, customers, suppliers, and open orders
- Ability to review, change, cancel, or add to any order at any point in the entry process
- Sequenced pick lists showing ship quantity, back-order quantity, and so on
- Easy adjustment of orders as entered to reflect shorts, substitutions, and so on
- Extensive discounting and text-printing options in invoice printing
- Open-order file with details of each purchase order, for ease of verifying invoices
- Output file in the proper format for DTRO accounts receivable
- Input files easily created by DTRO File Management

This fully documented system is part of CDMS (Comprehensive Distribution Management System). Full support is available for installation, training, consulting, and customizing. The purchase price includes 100 hours of support.

A version of this product is available for VAX computers.

**Price:** \$5000

**Contact:** Bill Benton  
(415) 861-5454  
DTRO SOFTWARE  
1229 7th Avenue  
San Francisco, CA 94122

## **DTRO Purchasing System**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Purchasing

This system includes a purchase order module and a goods-receipt program. In the comprehensive Purchase Order module, written in COBOL, quantities are determined by demand forecasting and inventory review programs and by management input. The program takes advantage of all available discounts, which may be standard or special, and computes the most profitable buy. Discounts — either permanent or temporary — can be applied to any or all items from a vendor. The program recognizes special discounts, as the user desires. The program maintains an audit trail accounting for all amounts entering the program.

The GOODSIN module allows the user to enter receipt of goods into the system. The interactive dialog makes entry easy, and the user is prompted for all key information items. The user can query the module for information on all purchase orders. GOODSIN immediately updates both the purchase order and item file records, maintaining accurate control of key information. Inquiry is available by vendor name or, if the purchase order number is unknown, date range. The system can record up to five partial goods receipts against each detailed purchase order line and coordinates with the overdue-orders listing. The system provides dynamic lead-time updating; when goods receipt occurs, the lead time for that item is revised to reflect current time.

These documented modules are part of CDMS (Comprehensive Distribution Management System). Full support is available for installation, training, consulting, and customizing. The purchase price includes 100 hours of support.

A version of this product is available for VAX computers.

**Price:** \$5000

**Contact:** Bill Benton

(415) 861-5454

DTRO SOFTWARE

1229 7th Avenue

San Francisco, CA 94122

## **Electronic Component Distribution System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Electronic • Inventory • Order processing  
• Wholesale

Designed to improve and maximize the profitability of distributors of components, boards, and modules, this well-proven, robust system can be supported worldwide and is installed in the United States, the United Kingdom, France, and Germany. The system is very economical to run and easy to install and has many features specific to electronic component distribution.



A version of this product is available for VAX computers.

**Price:** \$10,000 – \$60,000

**Contact:** Dr. E. A. Haworth

(061) 248-7100

MANCOS COMPUTERS

3 Wynnstay Grove, Fallowfield

Manchester M14 6XG United Kingdom

### **Enterprise Distribution**

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Inventory • Order processing • Sales analysis  
• Warehousing

The system offers sales order processing, inventory control, supplier order processing, sales analysis, and financial control.

A version of this product is available for VAX computers.

**Price:** \$20,000 – \$100,000

**Contact:** K. Jacobson

(01) 398 8511

ENTERPRISE SYSTEMS GROUP LTD.

Thameside Computer Centre, Summer Road

Thames Ditton, Surrey KT7 0OJ United Kingdom

### **EXDOC (Export Documentation System)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Import/export • Order processing

This powerful and flexible export order-processing system features simple and flexible forms filling; storage, recall, and printing of completed documents; automatic currency conversions and invoice extensions; automatic insertion of standard clauses and certifications in the appropriate language; management summary reports; automatic interface with inventory and accounting systems; and communications with other computers. You have to fill in every item only once. The system will transfer the data to the other forms.

Benefits of the system include an 80% reduction in the volume of data to be entered, a reduction in the time and labor needed to document export shipments, the virtual elimination of transcription and calculation errors, high-quality documents, and better management control based on the summary reports.

Shared Systems Support Limited provides installation, training, and ongoing hardware and software maintenance, as well as customization of forms and reports.

**Price:** \$3000

**Contact:** Les Palenik

(416) 298-9161

SHARED SYSTEMS SUPPORT LTD.  
3251 Kennedy Road, Unit 5A  
Scarborough, Ontario M1V 2J9 Canada

### Export Package

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounting • Import/export • Manufacturing  
• Transportation

This software for export manufacturers, suppliers, and export management companies produces documents, provides tracking and tracing, and performs all accounting functions.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Robert Brooks  
(603) 898-7000

ASA INTERNATIONAL LTD.  
10 Manor Parkway  
Salem, NH 03079

### FACS — Inventory and Order Entry

**PDP-11 Operating System:** RSTS

**Keywords:** • Bill of materials • Inventory • Order processing

This package contains four subsystems: parts master processing and reporting, purchase order processing and reporting, sales order processing and reporting, and bill of materials processing. The system features direct interface to the FACS A/R and concurrent operation with the FACS G/L; full branch location capabilities; inventory valuation using LIFO, FIFO, or average costing; alphanumeric part numbers; user-definable fields in parts master; G/L cost and sell cost for each part; five selling prices for each part; screen inquiry for stock status; intercompany transfers; and selective cost or price adjustments. Other features include a special pricing package that includes cost plus/sell minus, contract pricing, and quantity pricing.

Reporting features include inventory valuation and sales order status reports; an inventory transactions listing; purchase order status and cash forecasting reports; a sales history report by customer; customized invoices, purchase orders, and picking/packing lists; a committed inventory report; a user-defined parts master listing; and a user-defined on-hand inventory report. All reports can be printed to the screen or to a hard-copy device.

A version of this product is available for VAX computers.

**Price:** \$1200 — \$4500

**Contact:** Steven L. Buth  
(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.  
West 915 Second Avenue  
Spokane, WA 99204



## **FACS — Job Order System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Cost accounting • Financial analysis  
• Shop floor control

For companies that install equipment and do repair work in a job shop environment, this system permits accurate tracking of the profitability of shop operations. The Job Order System is incorporated in the General Ledger System and the FACS Inventory System, which provides inventory reductions directly to a job order. Tracking job orders by type allows analysis of estimates, actual costs, and variances for similar job orders. Analysis reports for work in process and completed job orders can be provided quickly and easily.

Features include the entry of text and detailed information for job-order proposals, acknowledgments, and invoices; a breakdown of job-order analysis into labor, with five user-defined categories; an issue parts and return parts to inventory; a screen inquiry for status of job orders in process; analysis and closing of completed job orders; flexible pricing for contract jobs and time and material job orders; categorizing and tracking job-order history; and automatic update to accounts receivable sales history for complete year-to-date customer sales activity.

Reporting features include the printing of proposals, acknowledgments, job orders, and invoices; the percentage of completion based on labor dollars; the analysis of gross margin on each job order by category; and user-defined reports for work-in-process and job-order histories.

Reports can be printed to a screen, to a line printer, or to a printer linked to a CRT or can be queued to a print spooler.

**Price:** \$1200 - \$4500

**Contact:** Steven L. Buth

(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.

West 915 Second Avenue

Spokane, WA 99204

## **Freight Forwarder System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Materials handling  
• Transportation • Warehousing

This system is used by the major U.K. surface and air forwarders. More than 40 locations use the system, which has modules covering all aspects of international freight movement. Financial control, multicurrency ledgers, and job costing ensure maximum profit. Traffic analysis permits market viability to be analyzed.

A version of this product is available for VAX computers.

**Price:** \$5000 - \$60,000

**Contact:** Dr. E. A. Haworth

(061) 248-7100

MANCOS COMPUTERS

3 Wynnstay Grove, Fallowfield

Manchester M14 6XG United Kingdom

### **Fuel Company System**

**PDP-11 Operating System:** Micro/RSTS

**Keywords:** • Billing • Petroleum • Scheduling

This system, written in DIBOL 83, is designed for fuel dealers supplying multiple products with strong seasonal variations in delivered amounts and several territories and routes. Route planning for different products is based on frequencies for two selling seasons and the last amount delivered. Automatic billing is done at month end from computer-generated statements summarizing all deliveries during the month.

The package provides a self-contained, menu-driven sales and service billing and delivery planning system. Delivery tickets are recorded and saved for billing at month end. The system provides complete accounts receivable and accounting functions.

**Price:** \$3875

**Contact:** Margaret Hodder

(617) 484-1709

CORPORATE CONSULTING CO.

556 Trapelo Road

Belmont, MA 02178

### **Fuel Oil Accounting/Delivery Scheduling**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Petroleum  
• Scheduling

The ADD Fuel system helps the petroleum marketer to forecast deliveries on either a degree day or a dated basis, automatically adjust for hot-water consumption in all seasons, control credit and collections, and generate dunning notices as required. The system can also produce "instant invoices" and "instant statements," maintain balance-forward and open-item accounts, and process budget and nonbudget accounts. The system accommodates accounts that purchase multiple products or that have many delivery locations. Accounts may be located and all account information displayed on a terminal through the account's name, address, number, telephone number, or practically any other key.

A report generator is an integral part of this system, thus allowing the user to produce ad hoc reports. The system also provides a total accounts receivable system, including sales and cash journals for any



period desired by the user as well as detailed tax reports and summaries.

The ADD Fuel system interfaces with the ADD General Ledger system to provide easy and accurate transfer of sales and other GL data at month's end.

A version of this product is available for VAX computers.

**Price:** \$15,000 – \$30,000

**Contact:** Bruce A. Bott, President  
(201) 584-4026

ADVANCED DIGITAL DATA, INC.  
354 Route 206  
Flanders, NJ 07836

### **ICAMS (Inventory Control and Management System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Inventory • Order processing

This complete order entry and inventory control system applies discounts and quantity breaks by vendor line and customer. ICAMS identifies substitution and alternate inventory items, offers bill-to and multiple ship-to capabilities, and contains 99 price levels based on customer type. In addition, this system interfaces completely with inventory and sales analysis systems and with accounts payable, purchase order, accounts receivable, and general ledger systems.

A version of this product is available for VAX computers.

**Price:** \$5000 – \$15,000

**Contact:** Anthony J. Ruggeri  
(314) 644-4050

AUTOMATED INFORMATION INC.  
6710 Clayton Road  
St. Louis, MO 63105

### **Identopick**

**PDP-11 Operating System:** RSX

**Keywords:** • Inventory • Warehousing

This paperless order picking system manages order picking and selection by displaying order numbers and item quantity to pick at individual bins through the use of LED displays. Logical pick zones can be selected to balance picker productivity. Identopick maintains a product master and location map and tracks the progress of order selection throughout the warehouse. Items are automatically identified through a pick display. The system increases picking productivity 100% and reduces order selection 66%; trains and orients a picker in one-half hour; identifies bulk and case pick zones; generates daily load sheets, accurate packing slips, and warehouse productivity reports; ties in with order checking; provides automatic order picking sequencing, balancing of multiple-location items, and substitution for out-of-stock

items; gives the warehouse manager control of product location; and offers random-order sequencing with a bar code option.

**Price:** \$45,000

**Contact:** Harmon Houghton, President  
(201) 348-6688

EXTENDED TECHNOLOGIES CORP.

1023 Boulevard East

Weehawken, NJ 07087

## Inventory

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Bar coding • Inventory • Warehousing

Bar-Coded Inventory eliminates errors and allows fast and easy stocking, receiving, disbursing, and inventory reporting and control. Applications are for wholesale and resale. Physical inventory can be handled quickly and easily by bar-coded scanners and can be verified and variances provided by the system. This system can be customized easily to fit your inventory system.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** Available upon request

**Contact:** John Logan  
(503) 297-1627

DENNISON EASTMAN CORP.

6400 S.W. Canyon Court

Portland, OR 97221

## Inventory

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Inventory • Materials handling • Warehousing

This flexible system supplements the product file with a group and a brand file, facilitating extensive and logical reporting. The Inventory system allows multiple branches, and the set-up inventory is automatically duplicated. Valuations are performed based on standard costs, weighted average, or FIFO. Complete audit trails are provided. The system interfaces with Order Entry/Invoicing, Accounts Receivable, and Sales Analysis and forms part of a complete order-processing system.

The Inventory system features multiple branches/warehouses, branch-to-branch transfers, mass inventory loading, purchase order information, on-line inquiry, extensive reporting, and user-maintained options.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$15,000

**Contact:** Tom Muskiluke  
(519) 893-4200



DIGITAL BUSINESS COMPUTERS  
 133 Manitou Drive  
 Kitchener, Ontario N2C 1L4 Canada

### Inventory Control

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS

**Keywords:** • Inventory • Retail • Warehousing

This layered package requires our Order Entry and Invoicing and Accounts Receivable systems as a base. The combination of these three packages provides complete information for maintaining inventory records, placing orders, invoicing, and updating accounts receivable information. Other user-oriented features include:

- Unlimited units of measure for each product for different packaging, lengths, types, and colors
- User-defined decimal-point positioning for inventory quantities in an 18-character field
- Multiple warehouses and transfers between warehouses (for both independent and branch) allowed
- Four costing methods (LIFO, FIFO, average cost, and specific cost)
- Automatic cost adjustments reflected in both invoiced and stock merchandise and automatic costing of orders as they are invoiced
- Reports for an unlimited date range by warehouse, unit of measure, and product
- A purchase analysis that calculates inventory movement and last month's sales and compares reorder quantities
- Calculation of inventory turnover
- A selection to freeze inventory quantities for a portion of inventory to allow an accurate physical count
- A password security system
- Interfaces to Order Entry and Invoicing and Accounts Receivable; other complementary products include the General Ledger, Accounts Payable, Payroll, Fixed Assets, and Job Cost systems

Inventory Control reports include inventory stock reports, purchase analysis, inventory movement, inventory turns, a user-designed inventory count sheet, freeze quantities, and a units-of-measure listing.

The user's guide includes information for the office manager, the terminal operator, and the application supervisor. The reference manual provides information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$5600 – \$17,500

**Contact:** Sales Department  
 (806) 792-3785

COMPU-SHARE, INC.  
3824 50th Street  
Lubbock, TX 79413

## Inventory Control

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Inventory • Manufacturing • Purchasing

This on-line, multiuser, UNIX\*-based inventory control system maintains stock levels and reorder points and provides usage analysis, inventory valuation, and reorder reports. The system supports multiple units of measure for each inventory item (cases, pieces, and pounds) with automatic conversion. Inventory control is fully integrated with purchasing, material receipts, and order and shipment processing. The system maintains perpetual on-hand and on-order balances for both purchase and sale items. Support is provided for "ABC" analysis of stock levels, which helps locate over- or understocked items. A subsystem is available to assist in physical inventory. The programs print count sheets and reports that compare theoretical to actual counts and stock levels. The programs allow entry of actual accounts and revised accounts and generate adjustment transactions for variances.

Also available are a print key providing hard copy of any screen image, true multiuser design for concurrent program use, built-in multicompany/multidivision support, and a user-assigned predefined company/division or option to specify company/division. Timely information is ensured through the automatic updating of G/L from all modules.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel  
(312) 332-3242

NEAL NELSON & ASSOCIATES  
185 N. Wabash, Suite 1908  
Chicago, IL 60601

## MAXX D Accounting and Management System for the Distribution Industry

**PDP-11 Operating System:** RSTS, XENIX™

**PRO Operating System:** XENIX™

**Keywords:** • Accounting • Inventory • Order processing  
• Sales and marketing

This interactive software system supports an on-line multilocation distributed processing operation. With complete dependence on menu displays and operator prompting, this user-friendly system performs order entry, inventory control, accounts receivable, accounts payable, general ledger, sales analysis, payroll, fixed assets, mailing lists, and word processing functions. These fully integrated modules are written in high-level COBOL and can easily be customized.



The CRT video display is the focal point of the system. Operators can perform all the system functions on any CRT display. Security measures are available to limit access to sensitive areas within the system. Information inquiries, data entry, and report generation can be handled concurrently, as needed, from work stations in the central office or at remote locations.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$245 – \$14,995

**Contact:** Michael Hansen  
(404) 391-9101

AMERICAN SOFTECH INC.  
1155 Hammond Drive, Suite 4285  
Atlanta, GA 30328

### **MBS ASR (Manus Business Systems Automatic Stock Replenishment)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Inventory • Purchasing • Warehousing  
• Wholesale

MBS Automatic Stock Replenishment uses data collected by the (prerequisite) MBS Order Processing and MBS Purchase Order Management modules to calculate suggested stock reorders. The system uses 18 months of order- and ship-quantity data to classify products based on movement and cost. Then the system will apply one of five ordering algorithms to calculate the proper suggested order quantity. The purchasing manager can then order on an exception basis, concentrating on the small number of products for which special knowledge and experience are most important.

A version of this product is available for VAX computers.

**Price:** \$4000 – \$6000

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### **MBS IM (Manus Business Systems Inventory Management)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Inventory • Warehousing • Wholesale

The MBS Inventory Management module provides the capabilities for effective inventory accounting and control. The module includes functions for maintaining product files for single or multiple warehouses. Inquiry functions provide rapid summary information on inventory status. A function is available to adjust stock levels through several types of inventory transactions, including physical adjustments, returned merchandise, and interwarehouse transfers. Audit trails

allow management to monitor changing stock levels and to guard against erroneous or unauthorized stock access.

Several functions assist in performing physical inventory count. Special functions are available in the module for maintaining item price and cost data over periodic intervals and for having product values automatically updated at predefined dates. Various reports provide useful management tools to help prevent loss of sales due to out-of-stock conditions.

The Inventory Management module interfaces, through transaction processing, with the MBS Order Entry/Invoicing, Purchase Order Management, and General Ledger modules.

A version of this product is available for VAX computers.

**Price:** \$4000 - \$9000

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### **MBS OP (Manus Business Systems Order Processing)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Order processing • Warehousing • Wholesale

This module provides single- or multiple-warehouse order processing operating in pre- and postbilling modes. As part of a complete system, this module is fully integrated with four other MBS modules: Inventory Management, Sales Analysis, Accounts Receivable, and General Ledger. The module has been successfully installed in low-volume single-warehouse and high-volume (8000+ order lines/day) multi-warehouse environments.

In the prebilling mode, orders are entered with stock volume checking. Picking tickets are directed to a warehouse printer. The open order is maintained until shipping information and picking exceptions are entered, at which time the invoice is generated and back orders are created. When stock is received, back orders can be filled, and a new order is automatically generated. The postbilling mode bypasses the picking ticket production, creating an invoice or memo immediately, with back-order support as needed. Several inquiries give the user complete visibility of orders, back orders, and stock levels.

Reports are provided for status and audit trails. Those reports offer the user sort and selection options. Special functions support interwarehouse transfer of stock.

A version of this product is available for VAX computers.

**Price:** \$6000 - \$15,000

**Contact:** Gary Vowels  
(206) 325-2200



MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### **MBS PO (Manus Business Systems Purchase Order Management)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Inventory • Purchasing • Warehousing  
• Wholesale

This module provides the capabilities for performing all purchasing activities related to an inventory control system. The module includes functions needed to maintain a vendor master file and to prepare purchase orders in an on-line mode for those vendors. All purchase orders issued are retained on file until all the line items ordered are processed. Received merchandise is recorded through receipt transactions and is applied against an open P/O. Back-order information can be generated at receipt entry time, if desired. Receipt transactions for noninventoried items are specially processed so that the receipt of such merchandise can be related back to the original sales order. Several report functions, with varying selection and sort options, provide P/O status and audit trail reporting. A vendor history report shows vendor service performance on a year-to-date basis. Inquiry functions give immediate access to vendor data and to the current status of issued P/Os. In an integrated system, the Purchase Order Management module directly interfaces with Inventory Management.

A version of this product is available for VAX computers.

**Price:** \$6000 - \$9000

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### **MBS WD (Manus Business Systems Automotive Parts Warehouse Distributor System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Automotive • Order processing • Warehousing  
• Wholesale

These fully integrated modules for order processing, inventory management, purchasing management, sales analysis, accounts receivable, accounts payable, and general ledger are tailored for the automotive aftermarket wholesaler. Specific emphasis has been placed on improving customer service by fast and efficient order processing, zoned picking tickets by warehouse, inventory visibility, interwarehouse transfer of stock, full back-order processing, and accurate sales analysis. Order entry functions are designed to support telephone and will-call counter order entry.

Inventory investment analysis is also given special attention. Stock movements are retained and used to classify the inventories for automated stock replenishment. Automatic replenishment applies one of five ordering algorithms to the movement history to compute a suggested order that the purchasing manager reviews and modifies by exception, thereby concentrating on those items requiring special knowledge.

**Price:** \$12,600 – \$38,700

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

#### **MDS-4**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Inventory • Sales and marketing

This sales, inventory, and accounting system is written in VAX/DIBOL. The sales system includes on-line order entry interfaced to inventory, purchasing, and A/R. Sales supports most D.O.E. devices, as well as extensive autopricing, generic description lookup, scheduled orders, and a cross-references and quotation system. Inventory supports an infinite number of store/warehouse locations, ranking, seasonality and trend analysis, multiple costing methods, automatic reorder-point calculations, and extensive cross-references. Purchasing can be centralized or decentralized, with manual or automatic P.O.s and extensive payables reconciliation. A/R supports user-defined aging buckets, multiple billing terms, and a full cash receipts system. A/P uses extensive P.O. reconciliation and calculates due-discounts automatically. The G/L is fully integrated to other applications, supports a 35-digit number, and is multicurrency.

A version of this product is available for VAX computers.

**Price:** \$25,000 – \$250,000

**Contact:** Ed Katz  
(602) 897-9576

SYSTEMS BY MICA, INC.  
6101 S. Rural Road  
Tempe, AZ 85283

#### **MODS (Manus Oil Dealer System)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts receivable • Billing • Inventory  
• Petroleum

Designed to meet the processing needs of the fuel oil dealer, this system provides complete degree-day accounting for automatic preparation and scheduling of delivery tickets for heating customers, an extensive customer data base with ready access through inquiry functions, and



historical information on deliveries and service calls. The full accounts receivable program provides complete accounting records, customer statements, and optional printing of delivery or service invoices. Credit management functions provide customer agings, finance charges, dunning notices, billing for a variety of budget payment plans, high visibility of accounts with credit problems, as well as a "tickler" file for credit follow-up. Management reporting provides sales and tax breakdowns, a profitability analysis, and truck/driver activity reports. For the service department, the system provides for contract billings, profitability analysis of service contracts, service call histories, and servicemen activity recaps.

The system may also be integrated with a full accounting package providing general ledger, financial reporting, accounts payable, payroll, and word processing capabilities.

**Price:** \$20,000

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### Order Eleven

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Inventory • Order processing • Warehousing  
• Wholesale

This multipurpose order processing system, developed by APT Ltd., can be implemented as a purchase order, stores, or sales order processing system, or any combination of these. That is achieved by using extensive parameters to configure the system to meet your exact requirements when installed.

The system provides effective control of inventory from supplier procurement to customer fulfillment and management reporting, thus, ensuring improved cash flow and lower stock overheads. Being menu driven, Order Eleven is easy to operate and can be run without the aid of a data processing department. Full support for the system is provided through both enhancements and day-to-day operational support.

A version of this product is available for VAX computers.

**Price:** £10,000 – £30,000

**Contact:** H. Exton-Smith  
(0272) 24181

RTZ COMPUTER SERVICES  
P.O. Box 19, 1, Redcliff Street  
Bristol BS99 7JS Great Britain

## Order Entry and Invoicing

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS

**Keywords:** • Order processing • Retail • Sales analysis  
• Warehousing

This system operates with Accounts Receivable to provide an interactive method of entering and processing orders, generating invoices, and analyzing sales. OE-11 features user-designed forms for order processing, using user-defined parameter files. Other user-oriented features include:

- User-defined product codes with up to 15 characters and a description with up to 120 characters
- An order entry screen that recalls and validates information from customer files, allows hold orders, provides available quantities, and performs immediate pricing
- User-defined order processing requirements that determine what is required before invoicing
- Pricing through four base-price fields or special pricing by contract
- Price changes that can be entered before the date of change and applied on the change date
- Credit memo, back-order, and direct-ship processing
- Price changes allowed during order entry process with passwords and reason codes
- After-the-fact invoicing and customers added during order entry allowed
- Orders tracked through the system with an order status report
- Generic (not inventoried), obsolete, and replaced products allowed
- A password security system
- Interfaces to Accounts Receivable and Inventory Control; other complementary products include the General Ledger, Accounts Payable, Payroll, Fixed Assets, and Job Cost systems

Reports include new orders, master orders, order status, product sales analysis, customer sales analysis, back orders, direct ships, special orders, missed and canceled orders, current prices, historical price changes, and pending price changes. Forms that can be designed by the user include invoices, acknowledgments, picking lists, packing lists, shipping papers, credit memos, new-order information, generic price sheets, and customer price sheets.

The user's guide includes information for the office manager, the terminal operator, and the application supervisor. The reference manual provides information on installation procedures, program flows, and data formats for the system manager and programmers.

A version of this product is available for the A-to-Z system.

A version of this product is available for VAX computers.

**Price:** \$3600 - \$12,500

**Contact:** Sales Department  
(806) 792-3785



COMPU-SHARE, INC.  
3824 50th Street  
Lubbock, TX 79413

### Order Entry System

#### PDP-11 Operating System: RSTS

**Keywords:** • Billing • Credit • Inventory • Order processing

This fully interactive, self-prompting system features inventory control, credit limit checking, automatic back ordering, and interactive reporting. Other features include automatic credit-checking authorization, selective back-ordering techniques, generation of picking tickets/invoices/credit memos, on-line O/E editing with error and correction prompts, on-line shipping entry with selective back ordering, overriding out-of-stock conditions, immediate inventory-control allocation functions, flexibility to allow for special pricing and discounting techniques, add-on comments to picking tickets and invoices, overriding ship-to address information, and integration with other application packages.

A version of this product is available for VAX computers.

**Price:** \$2000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544

RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### Order Entry/Invoicing

#### PDP-11 Operating System: CTS-300, RSTS, RT-11

**Keywords:** • Accounting • Billing • Order processing  
• Sales analysis

This flexible system interfaces with Accounts Receivable, Inventory, and Sales Analysis for a complete order-processing system. Optionally, invoicing is available as a stand-alone system. Pricing and discounts are automatic but can be overridden. The user defines units of measure, applicable taxes, information to be included in the ribbon line of the order/invoice, and add-on charges. Screen inquiries and hard-copy printouts provide comprehensive reporting. Complete audit trails are provided. The Order Entry/Invoicing system also features multiple branches, on-line inventory status and inquiry, reporting, automatic back orders, and user-maintained options.

A version of this product is available for VAX computers.

**Price:** \$5000 - \$20,000

**Contact:** Tom Muskiluke  
(519) 893-4200

DIGITAL BUSINESS COMPUTERS  
133 Manitou Drive  
Kitchener, Ontario N2C 1L4 Canada

## Order Processing

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Manufacturing • Order processing

This fully integrated, on-line, multiuser UNIX\*-based order processing system provides full support for multiple shipments, partial shipments, and back orders. The programs produce packing lists, shipping labels, order and shipment registers, back-order processing, open-order analysis, and order-status inquiries. The system provides for returns, allowances, adjustments, and items damaged during shipment. Both orders and shipments are immediately posted to Inventory Control. Special forms, such as manifests and bills of lading, can be produced, and programs are available for spread order and blanket order entry. A change-in-status report by item can be produced that shows open orders at start of period, new orders, shipments, and open orders at end of period. That report can be organized by item, by item within customer, or by item within vendor. Future orders can be entered, and stock-requirements reports can be printed to assist with long-range manufacturing plans.

Also available are a print key providing hard copy of any screen image, true multiuser design for concurrent program use, built-in multicompany/multidivision support, and a user-assigned predefined company/division or option to specify company/division. Timely information is ensured through the automatic updating of G/L from all modules.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Laurel McDaniel  
(312) 332-3242

NEAL NELSON & ASSOCIATES  
185 N. Wabash, Suite 1908  
Chicago, IL 60601

## Order Processing

**PDP-11 Operating System:** RSTS

**Keywords:** • Order processing

This program offers a complete order-processing system.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Frank Zimmer, President  
(201) 231-9400

UNITRONIX CORP.  
50 County Line Road  
Somerville, NJ 08876



## Order Processing System

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Accounting • Billing • Inventory  
• Order processing

This specialized system for food, paper, and tobacco/candy distributors is a series of interactive programs encompassing order entry, picking, truck routing, route reconciliation, invoicing, inventory control, accounts receivable, purchasing, sales commissions, loan equipment control, cash and carry, and a wide variety of detail and summary reports that track sales, profit, and unit movement by product, customer, vendor, buyer, and salesperson. Special features provide for remote order entry through MSI portable terminals, catch weight control, full and split-case control, slot control, picking labels or lists, multiple street prices, promos, deals, SPIFFS, cost/serving analysis, price books, product catalogs, customer reorder forms, commissions tied to collections, and dunning letters. Other special features include alpha search, product numbers cross-tied to vendor product numbers, automatic product substitution, credit and stock availability check at order entry, future price changes, and bid control.

Daily exception reports highlight stock outs; customers over credit; orders below desired minimum; line items billed below cost, or desired GP, or having a manual override; stock below minimum; and POs overdue. Demand reports track daily, weekly, M-T-D, Y-T-D, and 12 individual past month's activity/profit analyses on customers and products. Most reports also have CRT displays.

All operations are menu controlled, multi-CRT, and multiple-printer sensitive. Passwords control access. This multiple-company and multi-warehouse-sensitive system has been installed in more than 100 sites in 40 states and Canada.

Ongoing support is provided through on-line remote diagnostics.

Companion systems are available for AP, PR, GL, VM, and asset accounting.

**Price:** \$15,000 - \$25,000

**Contact:** Robert J. Steinis  
(203) 378-6010

FOOD DISTRIBUTOR SYSTEMS, INC.  
959 Main Street  
Stratford, CT 06497

## ORDERS Wholesale Distributor System

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Order processing • Warehousing • Wholesale

This fully interactive on-line system is for the wholesale distributor. The system provides on-line customer credit checking, automatic back

ordering, and the ability to override credit hold and out-of-stock conditions. The system also allows special pricing and discounting techniques.

- The order entry subsystem allows multiple terminal operators to perform order entry directly over the telephone or from order forms.
- The inventory control subsystem automatically allocates inventory during order entry. Inventory management maintains lot history from receipt to deletion, performs requirements forecasting, and reports year-to-date inventory sales histories. The system prints work orders, UPS shipping labels, invoices, and statements.
- The accounts receivable subsystem offers billing statements and aged receivables reports, as well as daily and monthly status reports to compare sales, profit percentages, and aged total receivables.
- The salesperson/commission subsystem tailors commission plans for individual salespeople and produces reports on demand.

A version of this product is available for VAX computers.

**Price:** \$5000 – \$15,000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544

RUF CORP.

1533 E. Spruce

Olathe, KS 66061

## **Papersoft**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Inventory • Order processing  
• Purchasing

This fully integrated interactive system for the wholesale merchant provides order entry with special pricing and amalgamation capabilities, billing, sales analysis, inventory management, accounts receivable, accounts payable, and general ledger capabilities. Papersoft controls multicompany, branch, warehouse, and retailing activities. The system features inventory management techniques to reduce stock-outs and to increase turns and functions to defined service levels and to improve inventory investment decisions. The system automatically checks for credit, automatically generates delivery documents, ships back orders, and fully controls factory-direct shipments. Source code is provided.

A version of this product is available for VAX computers.

**Price:** \$56,000 – \$100,000

**Contact:** Norman J. Parkinson  
(206) 828-6787

THE COMPUTERWORKS, INC.

P.O. Box 70248

Bellevue, WA 98007



**PENQUIN™****PDP-11 Operating System:** CTS-300, RT-11**Keywords:** • Inventory • Materials handling • Robotics  
• Warehousing

This complete fourth-generation software system combines the new technological areas of business automation and materials handling automation (robots), producing the totally automated warehouse. The system allows a huge storage facility to be run completely by one person.

For business automation, PENQUIN produces all paperwork required in any public warehouse and keeps track of warehouse contents. Warehouse customers are provided with total inventory control, either by reports generated at the warehouse or by accessing the warehouse computer remotely through telephone lines. More than 100 warehouse office automation functions are included. Modern data base management techniques support a completely integrated information management facility.

For automated materials handling, PENQUIN monitors and commands both conveyors and stacker cranes (robots), which move pallets of material in and out of storage. PENQUIN provides high-level control of all materials handling equipment. For example, one can withdraw different commodities from the warehouse at different rates of speed, depending on the priority of the shipment to be loaded onto waiting trucks or railcars.

The entire system can be operated successfully by anyone with minimal training and marginal typewriter keyboard skills. The computer system prevents personnel from creating errors or introducing ambiguities but gently aids PENQUIN users in clarifying their requests.

The PENQUIN host system runs on DIGITAL PDP-11 minicomputers and LSI-11 microcomputers. PENQUIN can be run in any frozen, refrigerated, or dry storage.

**Price:** Available upon request**Contact:** Peter McWha, General Manager  
(613) 225-8750

LOGICAID LTD.

154 Collonnade South

Nepean, Ontario K2E 7J5 Canada

**Perspective/700 Inventory Management****PDP-11 Operating System:** RSTS**Keywords:** • Bill of materials • Inventory • Order processing  
• Warehousing

The on-line Inventory system, with Perspective Order Processing and Purchasing, provides the proper balance between inventory and sales.

Any product can be specified for back order. That automatic feature eliminates manual control procedures and helps reduce the number of

sales lost because a required back order was overlooked. Perspective/700 Inventory also provides information that helps to decide what you need, when you need it.

This multiuser, multicompany system provides for 36 warehouse locations. A physical-inventory subsystem handles inventory automatically. Order Processing allocates inventory while invoicing automatically depletes inventory. The current value of inventory can be automatically calculated. The system can also show the manufacturer's product line. Reports include inventory valuation reports and a warehouse stock-status report.

The Inventory system, which interfaces to Purchasing, provides flexible pricing. Up to 36 prices to an item are allowed, as is quantity break pricing. Costing methods include FIFO, average cost, LIFO, standard cost, and current. Prices for inventory items can be updated to reflect current costs while protecting the bottom line of item profitability.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$5000

**Contact:** Michael B. Andelman, President  
(312) 953-2220

LIOCS CORP.

246 E. Janata Boulevard  
Lombard, IL 60148

### **Perspective/700 Order Processing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Credit • Financial analysis • Order processing

This multiuser, multicompany system allows the user to add new customers at order entry or to look up customers by account number, name, or phone number.

Order Entry enables the user to enter orders, credit memos, debit memos, and direct billing for individual customers while creating an open sales orders file for pending customers. Invoices are calculated daily for all sales orders that have been released for invoicing. An optional feature permits purchase orders for drop shipment of non-stocked items to customers to be generated automatically.

When an order is entered, the system immediately checks the stock status of the product. The item is committed, and shipping papers are printed in bin location sequence. Multiple ship-to addresses are allowed. The customer's credit status is also checked at order entry.

Pricing is flexible. Features include 36 price codes, 36 quantity breaks, contract prices, manual pricing, and trade and special discounts.

The Order Entry system automatically updates the Accounts Receivable, Inventory, General Ledger, Order History, and Sale Commission modules.

A version of this product is available for VAX computers.



**Price:** \$4000 – \$13,000

**Contact:** Michael B. Andelman, President  
(312) 953-2220

LIOCS CORP.

246 E. Janata Boulevard  
Lombard, IL 60148

### **PIC (Parts Inventory Control System)**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Cost accounting • Inventory

This system provides interactive data entry and data base inquiry for parts inventory accounting and control. Labor expense can also be included to produce project cost reporting by a number of categories.

Reports of low stock and reports by vendor, part number, or size can be produced. An audit trail report by work order or by purchase order is available.

Data entry errors are trapped at entry time. Any number of parts can be stored on multiple disks. Reporting across disk files is standard.

A version of this product is available for VAX computers.

**Price:** \$10,000

**Contact:** W. G. Welter  
(713) 373-1905

ADVANCED MANAGEMENT TECHNOLOGIES

Box 71

Cypress, TX 77429

### **Pioneer COMMAND Inventory Management Module**

**PDP-11 Operating System:** RSTS

**Keywords:** • Inventory • Manufacturing • Warehousing

This module, developed by Pioneer Software International, is interactive, on line, and user friendly and provides complete control of inventory. The module can be installed stand alone or as part of Pioneer's COMMAND System for Financial Management, Distribution, and Manufacturing. Pioneer's COMMAND System is written in BASIC-PLUS-2 and requires a minimum of 128K words. Because the system is based on UserWare International's USER-11 Database Management System, extensive on-line inquiry and ad hoc reporting are available.

The Inventory Management Module operates in a multiple-warehouse environment involving finished goods, subassemblies, components, and raw materials. Various financial and statistical information and up to 24 periods of usage history are retained against each part. Control of parts movements is achieved through an audit trail of all movements, including merchandise received, issued, returned from production, and returned to suppliers. Inventory reordering patterns are parameter driven and depend on which options are selected. This

module also offers comprehensive physical inventory procedures, several costing methods, and a variety of screen displays to review inventory balances and movement. Numerous reports are available, including inventory status and valuation, inventory reorder report, ABC analysis, and others. The module automatically interfaces with Sales Order Processing, Purchase Order Processing, and General Ledger.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$10,000

**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006

USERWARE INTERNATIONAL

2235 Meyers Avenue

Escondido, CA 92025

### **Pioneer COMMAND Purchase Order Processing Module**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Manufacturing • Order processing  
• Purchasing

This interactive, on-line, and user-friendly module, developed by Pioneer Software International, can be installed stand alone or as part of Pioneer's COMMAND System for Financial Management, Distribution, and Manufacturing. Pioneer's COMMAND System is written in BASIC-PLUS-2 and requires a minimum of 128K words. Because the system is based on UserWare International's USER-11 Database Management System, extensive on-line inquiry and ad hoc reporting are available.

The Purchase Order Processing Module handles all purchase orders and back orders to suppliers and provides a method of receiving and returning merchandise against individual line items on those orders. Extensive facilities are available to allow the addition, modification, and deletion of orders and individual line items on orders. The vendor data base contains details of the contractual terms, including normal discount, contract pricing, and payment terms. A variety of screen displays, providing summary and detailed information, are available for reviewing purchase orders. Numerous reports are available, including purchase order summaries in a variety of sequences, aged purchase order reports, returns, exception reports, and others. The Purchase Order Processing Module automatically interfaces with the Inventory Control, Accounts Payable, General Ledger, Sales Order Processing, Work Order Processing (Production Control), and Material Requirements Planning (MRP) modules.

A version of this product is available for VAX computers.

**Price:** \$4000 - \$12,000

**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006



**USERWARE INTERNATIONAL**

2235 Meyers Avenue

Escondido, CA 92025

**Pioneer COMMAND Sales Order Processing Module****PDP-11 Operating System:** RSTS**Keywords:** • Accounting • Billing • Order processing  
• Sales analysis

This module, developed by Pioneer Software International, is interactive, on line, user friendly, and part of Pioneer's COMMAND System for Financial Management, Distribution, and Manufacturing. Pioneer's COMMAND System is written in BASIC-PLUS-2 and requires a minimum of 128K words. Because the system is based on UserWare International's USER-11 Database Management System, extensive on-line inquiry and ad hoc reporting are available.

The Sales Order Processing module consists of three major components: Order Entry, Invoicing, and Sales Analysis. The Order Entry system provides for a variety of discounting policies that can automatically be used by setting system control parameters, which can be based on customers, customer groups, products, product groups, or any combination. Discounts applied can be based on percentages or absolute amounts. Discounts given at order entry time can be changed or overridden at any time, even during invoicing. Multiple warehouse or stock locations are supported. Currency conversion is also an option. Invoicing allows direct entry without reference to an open order, as well as invoicing selected or batched open orders. Credits can be entered separately. A variety of screen displays are available to review open-order details. Numerous reports are available, including open orders in various sequences, aged order report, and detailed and summary sales analysis, including sales commissions. The Sales Order Processing module automatically interfaces with the Accounts Receivable, Inventory Management, and General Ledger modules.

A version of this product is available for VAX computers.

**Price:** \$4000 - \$12,000**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006**USERWARE INTERNATIONAL**

2235 Meyers Avenue

Escondido, CA 92025

**PM32 Order Processing/Inventory/Sales Analysis****PDP-11 Operating System:** CTS-300, RSTS, RT-11**Keywords:** • Accounting • Inventory • Order processing  
• Sales analysis

This package can be linked with the Accounts Receivable package to automatically update customer balances and receivable transaction files as invoices and credit memos are created.

Pricing features include the ability to price invoice items with one of six prices stored on the product file or with a nonstandard price entered at order entry. The system can handle price discounts as well. A discount percent can be applied to the invoice total, the line item, or the invoice amount carried to A/R. The system also provides for either standard costs or average costs for valuing inventory and costing sales. In addition, sales tax can be automatically applied to an invoice, based on sales tax codes in the percentage tables.

Inventory features include an automatic check on stock at order entry, the maintenance of information for the source of inventory replenishment and last order, production of picking lists by bin locations, product number, and so on. Inquiry is allowed to the open-order file, with selective display or reporting based on delivery date, order date, customer code, product code, stock code, and more.

Sales features include a sales commission rate on the tax/discount table file. Sales commissions can be calculated by line item. The system maintains sales statistics in the product record for quantity, cost of sales, and sales for the current period, year to date, and prior year. A sales representative report provides an audit trail of commission transactions and tracks collection of accounts. The system automatically checks the credit of customer account balances, reports back orders selectively by customer or product, and prints delivery/special instructions on invoices.

**Price:** \$5500

**Contact:** Victor Goldberg  
(212) 872-7732

PEAT, MARWICK, MITCHELL & CO.  
345 Park Avenue  
New York, NY 10154

### **ProBiz™ Order Processing and Inventory Control**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • Inventory • Order processing • Point of sale  
• Sales and marketing

This series of programs gives you control over your customers' orders, from the time they are entered until they are shipped and closed. The order entry sequence directs the entry of the order, checks customer credit and stock availability, and prices the order. The system allows multiple shipment quantities and dates; prints an order entry log, acknowledgments, and packing lists; and updates the product file with booking information. When an order is shipped, a canceled order register, invoice cost register, and invoices are printed. Orders on the books can be aged by item and printed by either customer or job number. Back-ordered items are referenced and returned to the open-order file. Open orders can be referenced for a customer by C.R.T. Delinquent items are printed on a priority checklist, so that no item is overlooked.



Order Processing can be used with other modules to update sales records and sales and accounts-receivable accounts in the general ledger, post salesperson commission records, post invoices to the accounts receivable file, and update the sales region file, as well as keep track of each item shipped and the customer to whom it was shipped. This module gives you the status of every order and has a direct link to the customer master and finished-goods modules.

The Customer Master module lets you keep track of average payment time, last payment time, credit line, credit status, highest credit, terms, open accounts receivable balances, SIC listings, bookings, and sales (for the previous year and the year to date).

The Stock Items module describes items and lists supplier numbers, reorder points, backlog of orders, quantity of order, due date, beginning inventory, present stock level, and up to 10 prices and price breaks. This module also contains the booking sales and cancellation and return data used by the Sales Analysis module.

The Sales Analysis and Commissions module allows you to analyze sales by bookings and shipments by week, month, and year. The module keeps payable commissions on a file that is updated automatically from accounts receivable and order processing. The module also clears those commissions from the file and produces a report by salesperson, by region, showing sales, bookings, and sales quotas by the month, previous year, and year to date. The module can also clear weekly, monthly, and yearly accumulators from the module.

A cost-of-goods sold report shows the cost of each item sold, based on the current cost obtained from the Inventory file. A franchise tax data file, which is updated automatically from Order Processing, produces a franchise tax report. A sales tax file is updated automatically from Order Processing and produces a report of items with sales tax. A product sales history report provides a listing either by product or by customer of each item sold, to whom, how many, what price, and when.

A version of this product is available for the A-to-Z system.

**Price:** \$3500 - \$5500

**Contact:** D. L. Wyse, Vice President  
(513) 890-1800

PROJECTS UNLIMITED, INC.

A Division of Professional Business Software  
P.O. Box 14538  
Dayton, OH 45414

## **Production Control Systems**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Bar coding • Production control

Through data entry or automatic entry by means of bar-code tags or labels, the system can keep track of production while eliminating errors during input. This system is built around your specifications or

is fitted to one of our existing production control packages. Existing production control packages keep track of location of items and their status at each location. Management reports are available on demand.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** Available upon request

**Contact:** John Logan  
(503) 297-1627

DENNISON EASTMAN CORP.

6400 S.W. Canyon Court  
Portland, OR 97221

### **Purchase and Supply Control**

**PDP-11 Operating System:** RSTS

**Keywords:** • Inventory • Manufacturing • Purchasing

This system controls the purchasing and stock replenishment for manufacturing and distribution companies. The largest military aircraft manufacturer in Europe uses this system to control an annual expenditure in excess of \$2 billion.

A version of this product is available for VAX computers.

**Price:** \$20,000 – \$100,000

**Contact:** Dr. E. A. Haworth  
(061) 248-7100

MANCOS COMPUTERS

3 Wynnstay Grove, Fallowfield  
Manchester M14 6XG United Kingdom

### **RAM 12™**

**PDP-11 Operating System:** RSX

**Keywords:** • Accounting • Inventory • Order processing  
• Point of sale

This comprehensive, reliable distribution and accounting control system provides interactive on-line information, integrated modules, better control, and increased profitability for the user. Reports can be selectively displayed on a video terminal or printed on a system printer. A report is either printed immediately or sent to a disk "spool" file for printing at a later time. Printing starts at any page number, and management reports can be printed many times. Companies and departments can simultaneously use a single RAM 12 system. The sophisticated and flexible password system permits a business to customize its security methods.

RAM 12 is offered as a complete turnkey systems solution and includes training, 800-line telephone support, as well as on-line remote terminal and computer support from IDSC through modem connections.

A version of this product is available for VAX computers.



**Price:** \$10,000 – \$30,000

**Contact:** Robert Thomason  
(603) 645-6677

INTERNATIONAL DIGITAL SYSTEMS CORP.  
669 East Industrial Park Drive  
Manchester, NH 03103

### Sales Analysis

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Sales analysis

This easy-to-use, user-maintained system with on-line inquiry capabilities is an integral part of the order-processing system and interfaces to Order Entry/Invoicing and Inventory systems. This extensive reporting Sales Analysis system contains summary or detailed reports and comparisons to prior periods.

Breakdown for product sales analysis is done by product, by group, and by brand, whereas customer sales analysis is done by salesperson, by location, and by customer class. Exception reporting by product and by customer provides information based on user-defined parameters.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$8000

**Contact:** Tom Muskiluke  
(519) 893-4200

DIGITAL BUSINESS COMPUTERS  
133 Manitou Drive  
Kitchener, Ontario N2C 1L4 Canada

### Shop Floor Control Systems

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Bar coding • Information management  
• Shop floor control • Statistics

Error-free tracking of items makes this package perform well for your system. Use of bar-coded tags or labels on each item eliminates errors and speeds throughput. The system keeps track of when an item came to station, when it left the station, and statistical information (comments, dimensions, and so on). Management reports are available on a daily, weekly, monthly, yearly, or on-demand basis.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** Available upon request

**Contact:** John Logan  
(503) 297-1627

DENNISON EASTMAN CORP.  
6400 S.W. Canyon Court  
Portland, OR 97221

### **SMARTEYE Routing Controller**

**PDP-11 Operating System:** None required

**Keywords:** • Data collection • Materials handling  
• Warehousing

This system directs the movement of material in automated manufacturing systems. Material on carriers, pallets, skids, totes, and so forth is routed to the correct destination while data base computers are automatically updated. Custom installations are created through fill-in-the-blanks dialogs.

Support for industry-standard programmable controllers, SMARTEYE label readers, redundant SRC operation, and recovery from power failure are among the many supported options.

**Price:** \$10,000 – \$30,000

**Contact:** Marty Peters  
(313) 589-3382

SYSTEM ASSOCIATES, INC.  
1183 Chicago Road  
Troy, MI 48083

### **Soft Drink Bottler's Package**

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**Keywords:** • Accounting • Inventory • Production control  
• Sales analysis

This comprehensive accounting and information system for soft drink bottlers and distributors is written in Pascal under a data manager system. Some of the features include presell, route reconciliation, posting and control, sales reporting, and all accounting functions.

- Presell involves invoices and load sheets printed from customer orders.
- Route accounting provides for single-source data entry with on-line validation, which eliminates errors and saves time during the route reconciliation process.
- Inventory control provides perpetual inventory on all items in finished goods. An on-hand report by warehouse indicates the number of days of supply on hand. Monthly and year-to-date statistics can be displayed by item. Costing is optional with inventory evaluation.
- Production control provides usage and cost control on raw-material items used in the production of finished goods. Standard use factors are compared against actual use for variance reporting.
- Sales reporting provides a functional set of reports covering case sales by warehouse, case sale trends, daily history, customer trends and analysis, franchise reports, promotional activity, salespeople's activity, and sales mix by any classification of customers.

All components are fully integrated and include sales analysis, inventory, presell, route reconciliation, accounts receivable, general ledger, accounts payable, and payroll.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.



A version of this product is available for VAX computers.

**Price:** \$12,500

**Contact:** John Gardiner  
(503) 388-3611

INFORMATION CONCEPTS, INC.  
841 N.W. Bond Street, P.O. Box 85  
Bend, OR 97709

### **SSMS (Service Station Management System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Automotive • Inventory • Petroleum

SSMS is a complete package that tracks all sales and receipts for up to several hundred stations. SSMS provides detail by pump, product, book/physical inventory, cash receipts and miscellaneous sales by shift, day, or other user-selected reporting period. SSMS features on-line inquiry, immediate update of reported data, and a flexible reporting structure, much of which is directed by operator inputs. SSMS can interface with automated station equipment and may be integrated with ADD's General Accounting Software and Wholesale/Liquid Inventory systems to account for product from supplier to consumer.

**Price:** \$5000 - \$20,000

**Contact:** Bruce A. Bott  
(201) 584-4026

ADVANCED DIGITAL DATA, INC.  
354 Route 206  
Flanders, NJ 07836

### **STRADIS**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Modeling/simulation • Planning aids  
• Warehousing

This interactive modeling system, developed by Unilever, enables distribution planners to simulate complex distribution networks from products to customer. STRADIS includes interfactory and interdepot movements by a variety of user-specified transport modes. Alternative strategies can be rapidly evaluated, using realistic cost and resource functions for both facilities and transport. The resources and costs associated with multidrop load delivery are accurately represented. The system generates full cost and flow information for each chosen configuration and demand level. Thus, product and customer profitability can be calculated by area and budgets and tariffs evaluated. The user can amend STRADIS suggestions and query the system, using a variety of reports.

A version of this product is available for VAX computers.

**Price:** £20,000

**Contact:** Bob Blightman  
(+44) 784 34411

P-E INFORMATION SYSTEMS LTD.  
Park House, Wick Road  
Egham, Surrey TW20 0HW United Kingdom

### **TBS Order Entry System with Inventory Control, Billing, and Sales Analysis**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** RT-11

**Keywords:** • Billing • Inventory • Order processing  
• Sales analysis

TBS Order Entry features on-line entry of orders and CR memos, permits items to be partially back ordered and partially shipped, automatically extends prices and calculates tax and weight, produces picking tickets for each order, maintains separate ship-to addresses, and changes or deletes orders automatically to adjust inventory. The system also prints a daily order log and open-order and back-order analysis reports — all by customer number or product number.

The Billing software selects invoices for printing, adjusts quantity ordered and shipped in the invoice preparation program, provides interface for invoices and CR memos to A/R, and prints the invoice register.

The Inventory Control software provides an on-line update of the product file, which contains a 10-character product number, three prices, average cost, QTY on hand, QTY on order, QTY RES, QTY BO, EOQ, ROL, and much more; prints the daily inventory activity register; and prints the purchase advice report and the price list.

The Sales Analysis software produces five reports.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$995 – \$2500

**Contact:** Larry Jones  
(818) 352-6058

THETA BUSINESS SYSTEMS  
9947 Commerce Avenue  
Tujunga, CA 91042

### **TOLAS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Inventory • Order processing  
• Purchasing

This comprehensive package for distribution and light manufacturing industries provides a complete multifunction, multiuser business system. Installations can run from 10 to hundreds of interactive terminals and can perform batch processing and program development or maintenance concurrently with on-line operations. TOLAS offers ease of



operation, improved operator efficiency and accuracy, extensive on-line edit checking, formatted CRT screens, consistent logical flow across functions, and numerous accounting controls and audit trails.

TOLAS consists of 10 application modules: Order Entry and Invoicing, Inventory Management, Accounts Receivable, Sales Analysis, Purchase Order Management, Accounts Payable, Financial Reporting, Fixed Assets Accounting, Salestream, and Inquiry and Reporting System, which includes a PC interface. Additional modules available are Work Order Processing and Equipment Sales and Rental Reporting.

Information from the Financial Reporting System can be passed directly to financial analysis and modeling packages on either mainframe or microcomputers. Special functions, known collectively as "Salestream," allow a centralized TOLAS data base to be accessed remotely by customer, vendor, or salesperson terminals. More than 300 business functions are represented in the standard package. Modules can be installed separately or combined to form an integrated system.

Although TOLAS can be installed as a complete off-the-shelf system, it is typically customized and can easily be expanded to meet growing EDP needs. That flexibility is achieved through several report and inquiry generators and by the use of modular programming techniques.

Included with the software license are standard system specifications, program sources and documentation, users' manuals, and a 3-month warranty. Available at additional cost are systems analysis and custom specifications, package modifications, custom documentation, data conversion, user training, and extended warranty and support services.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$26,000

**Contact:** Bob Erickson  
(412) 963-6770

GSI TRANSCOMM  
1380 Old Freeport Road  
Pittsburgh, PA 15238

### **TRIMS (Tire Dealers and Retreaders Information Management System)**

**PDP-11 Operating System:** RSTS, RT-11, TSX-PLUS™

**PRO Operating System:** RT-11, TSX-11

**Keywords:** • Accounting • Automotive • Inventory  
• Point of sale

This complete inventory control, accounting, and point-of-sale system for the independent tire dealer has modules for inventory control, invoicing (including point of sale with on-line inquiry by tire size), accounts receivable, sales analysis, accounts payable, general ledger, payroll, purchasing, and report generation. The programs are

interfaced and provide for data security. Program highlights include pre- and postbilling capabilities (including point of sale), on-line order entry and editing, trade-ins, automatic back-order processing, product pricing with multiple quantity-level price breaks, group price changes by product type, customer trade discounts, national account billing, claims and adjustments tracking, sales tax exempt/computed status by customer with automatic sales tax computation, intercompany stock transfers, automatic purchase order generation and receipting, balance-forward and open-item customers, and futures (split billing).

The system performs cash-requirements report analysis by vendor and user-formatted financial statements, including a balance sheet, financial statement with budgets (P&L) and last-year comparatives, individual financial statements by profit center, and total company financial statements.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$10,000 – \$30,000

**Contact:** Dane Petersen, Marketing  
(206) 453-1320

COMPUTERS NORTHWEST, INC.

14711 N.E. 29th Place, Suite 110  
Bellevue, WA 98007

### **Warehousing Systems**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Information management • Inventory • Retail  
• Wholesale

Inventory control through the use of bar-coded tags or labels virtually eliminates human errors. The system keeps track of inventory — when and where received, when and where to be shipped — costs associated with the inventory item, and information fields (weight, dimensions, and so on). Management and daily reports are available. The system is designed for wholesale or retail.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** Available upon request

**Contact:** John Logan  
(503) 297-1627

DENNISON EASTMAN CORP.

6400 S.W. Canyon Court  
Portland, OR 97221

### **Warehousing/Order Entry/Inventory/Purchasing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Inventory • Order processing • Purchasing  
• Warehousing

The ADD Warehouse Distribution system is a complete order entry/invoicing/inventory and purchase order system designed to meet the needs of a wide variety of TBA, motor, and lube oil distributors, as



well as general warehouse operators. This full inventory management system allows multiple warehouse locations; inventory valuation based on FIFO or LIFO methods; cost, profit, and reorder analysis; and more. The order entry module ensures automatic and accurate pricing based on practically any volume or special discount structure, optional generation of picking lists, truck loading tickets, bills of lading, and invoices. Orders remain open until delivery, when adjustments and returns can be included. Point-of-sale applications are handled easily by allowing automatic generation of invoices at order entry time. The purchase order control module automatically produces purchase orders based on user-defined reorder points or sales history; when goods are received, they are automatically updated into inventory, and exception reports are generated if necessary. In addition, the system is fully integrated with ADD's Accounts Receivable package for credit control and more.

A version of this product is available for VAX computers.

**Price:** \$5000 - \$15,000

**Contact:** Bruce A. Bott, President

(201) 584-4026

ADVANCED DIGITAL DATA, INC.

354 Route 206

Flanders, NJ 07836

## **WDS/2 (Warehouse Distributor System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Inventory • Order processing  
• Warehousing

This fully integrated package for heavy-duty parts distributors includes order entry, point-of-sale invoicing, service shop billing, inventory control, kit building and explosion, core accounting, customer price control, sales and profit analysis, back-order and special-order control, purchasing, accounts receivable, accounts payable, payroll, and general ledger. Special features of the system include automatic cross-referencing from old or competitive part numbers to the current part number in use, on-line substitution of an almost unlimited number of part numbers, automatic filling of back orders and special orders, and automatic customer pricing with the ability to "lock" special discounts into the system by specific vendor or by part number.

WDS/2 supports multiple branches and multiple companies on the same computer system. Each branch can view and order inventory from every other branch. The purchasing module allows the home office to control purchases by vendor and, if desired, to force branches to obtain their merchandise from the company warehouse.

WDS/2 is written in BASIC-PLUS-2 and uses the RMS-11 Record Management System.

A version of this product is available for VAX computers.

**Price:** \$25,000 – \$50,000

**Contact:** J. Richard Schien  
(217) 854-4721

KARMAK SOFTWARE & COMPUTER SERVICE  
550 North Broad  
Carlinville, IL 62626

**Welding Distributor System — TMS BASIC +, 2 + 2, and Super +**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Accounts receivable • Inventory  
• Order processing • Purchasing

The Welding Distributor System combines small-parts (supplies) inventory, cylinder inventory control, and accounts receivable systems. Because of the modular design of the programs, the small-parts inventory system is optional.

Customer Account Inquiry displays financial and cylinder activity. The customer can be accessed by name or account number. Cylinder Inquiry provides a method of researching the status of cylinders maintained by serial number.

A sales tax code file automatically calculates sales taxes when orders and cash sales are entered. Extensive sales tax reporting features are provided at state, city, and county levels. Cash sales are entered separately from charge transactions. The cash sale program allows for the entry of cylinder records, which permits the customer's file to be updated for rental or demurrage.

The system can handle balance-forward and open-item-type customers. Orders — or charge invoices, if the small-parts inventory system is not to be used — can be entered, as well as shipping/returning cylinders in the same process. Open orders may be queried, added to, changed, or deleted prior to billing. Changes to line items or cancellations automatically result in adjustments to inventory. Noninventory sales and debit or credit memos are entered through regular sales entry and editing. The system prints the Sales Journal, including credit and debit memos.

The system allows interactive entry and editing of cash receipts. Non-A/R cash received may also be entered through cash receipts. A general ledger account number must be entered to indicate distribution.

The purchasing module provides graphics demand forecasting with the ability to use what-if analysis based on simple moving average, weighted moving average, exponential smoothing, and time-series analysis forecasting of EOQ and reorder-point calculations. Consideration is given to the cost of holding and of ordering inventory, cost of lost sales, and time to deliver. Other important tools, such as standard deviation, increase the value of this important management resource.



Other systems include BARZ for tracking cylinders by serial number. This technology provides an efficient and reliable method of asset management, as well as cylinder maintenance management.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$50,000

**Contact:** Stan Hoggatt, Market Manager  
(406) 652-2620

COMPUTERS UNLIMITED  
2407 Montana Avenue  
Billings, MT 59101

## WHOLESALE-11

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Accounts receivable • Inventory  
• Order processing • Wholesale

This comprehensive interactive system for managing a small to medium-size wholesale business was designed for a cigarette, tobacco products, and general merchandise wholesaler. The system consists of nine modules: accounts receivable, customer files, credit memos, inventory control, order entry, purchasing (reorder), sales analysis, sales tax reporting, and vendor files.

Specific features include five levels of cost-plus pricing; broken-unit pricing; fixed-contract pricing; week-to-date, month-to-date, year-to-date, and prior-years sales analysis by salesperson and customer; reorder by vendor (min/max); add, change, and delete to inventory; daily reports on sales, payments, and credits; advertising message on invoice; sales, cost, gross margin, and percentages for individual customers and inventory items; inventory evaluation and physical counts; management/salespeople's price/cost lists; and more.

The system provides user-friendly procedures, on-site training, and continuous support. WHOLESALE-11 is written in DIBOL. Program modification and customization are available. A sample packet containing reports, forms, and so on is available. Dealer inquiries are encouraged.

**Price:** \$9000 – \$13,000

**Contact:** Robert L. Metzger  
(504) 542-1479

DIGITAL COMPUTER SYSTEMS, INC.  
31 Darrell Drive  
Hammond, LA 70401

## Wholesale/Liquid Product Inventory

**PDP-11 Operating System:** RSTS

**Keywords:** • Billing • Inventory • Petroleum • Wholesale

This system provides complete product control from purchase to sale. Inventory is tracked by storage location, by vendor, and by transportation vehicle (truck, barge, ship, and so on) with true, layered FIFO costing. "Throughput" and "exchange" agreements are easily monitored, including temperature-corrected gallons. Sales are easily posted to this system, which allows for a highly sophisticated pricing structure, including freight charges; temporary and voluntary allowances; and federal, state, and municipal taxes, including gross receipt taxes, prompt pay discounts, and more.

A history of price and discount changes is maintained, thus allowing back-posting of deliveries without looking up previous price data. Also, future price changes may be entered. The system interfaces with the ADD Accounts Payable and ADD Fuel Oil Accounting systems to prevent inventory/billing (payables) mismatches and to track retail disposition of product, respectively.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$20,000

**Contact:** Bruce A. Bott, President  
(201) 584-4026

ADVANCED DIGITAL DATA, INC.

354 Route 206

Flanders, NJ 07836

### **Wholesaler's Software System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Billing • Order processing • Point of sale  
• Wholesale

This system is designed for order entry and invoicing. A customer number is entered, and the name and address are displayed for verification. Then products and quantities are entered. Prices need not be entered; they will be automatically picked up from the product master file. Override is provided for. After orders have been entered, a picking list is produced. The list sorts products and quantities ordered by a zone code. Orders are picked and the invoice correction program is run, allowing changes in quantities or products to be made. Lines can be added or deleted. Out-of-stock items can be back ordered or canceled, or substitutions can be made.

The invoice printing program produces the corrected invoices, extends and foots all the invoice lines, and automatically calculates sales tax. Past-due customers are flagged and will not continue without override authority. That program also relieves inventories, updates accounts receivable data, and collects data for various reports to be generated. The system also contains an over-the-counter sales program and a program to enter cash receipts, adjustments, discounts, and merchandise returns.



Pricebooks, inventory status reports, inventory evaluation, product movement, gross-profit reports (by product, customer, and salesperson), sales analysis, and accounts receivable information are produced. Customer statements are produced bimonthly. To save expensive statement forms, statements for customers with zero credit balances are printed on stock paper and kept for the company's records. Those statements are not mailed to the customer. An aging report is printed with each statement run.

A version of this product is available for VAX computers.

**Price:** \$24,000 +

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.  
1010 S. Weinbach Avenue  
Evansville, IN 47714-2994

### **Wine and Beverage Distribution System**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Accounting • Inventory • Order processing  
• Wholesale

This comprehensive accounting system for wine, spirit, and beverage distributors is written in DIBOL and consists of the following modules: Customer Order Processing/Billing, Accounts Receivable, Inventory Management, Sales History, and Sales Analysis. Accounts payable, general ledger, fixed assets and depreciation, payroll, purchase orders, and receiving modules can be integrated with the system.

The system was developed to save time and money in processing transactions and data, to improve customer service, and to provide complete management information, including optimum inventory levels, profit analysis, and thorough sales analysis. Displays and reports present items by bottle size, case size, description, and either winery and vintage or distiller and proof. The system keeps inventories in both bottles and cases for multiple warehouses, allows warehouse transfers and receipts, and provides physical inventory cycle counting and comparison. Available reports include depletion by supplier, ABC analysis, state gallonage, item gross profit, and several types of stock status.

Pricing features are controlled by customer type. The system handles post-off pricing and sets markups and split-case charges, allows order discounting, and provides on-line credit checks and availability/allocation of items at order entry. Future-order and back-order reports are printed.

The system allows on-line entry and updates of cash receipts and credit memos. Extensive sales analysis and cost-of-sales reports include comparative period or month-to-date and year-to-date and analysis by customer, customer type, salesperson, and territory. Receivable aging

## 418 Distribution

reports in detail and summary are available by customer and salesperson, along with a report showing delinquent receivables by salesperson.

A version of this product is available for VAX computers.

**Price:** \$15,000 – \$30,000

**Contact:** Bruce Rich  
(203) 269-6008

WORLDWIDE DATA SYSTEMS, INC.  
100 South Turnpike Road  
Wallingford, CT 06492

### XK-11

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Accounts receivable • Inventory  
• Order processing • Wholesale

Memory required: 64K.

This on-line system, written in DIBOL, maintains customer history. The system includes inventory, accounts receivable, and order entry. Customizing is available.

**Price:** \$5000 – \$25,000

**Contact:** Dr. Ralph Keul  
(515) 289-2403

COMPUTER ADVICE, INC.  
7372 N.W. 21 Street  
Ankeny, IA 50021

### Zip-Check

**PDP-11 Operating System:** RSX

**Keywords:** • Inventory • Warehousing

Zip-Check uses voice-recognition input to count and verify the order item and quantity. The batch or lot number can be verified or input to a permanent order record. Zip-Check verifies pick accuracy to 100%, increases checker accuracy to 100%, and prompts checker counts and batch/lot inputs.

Checker productivity is increased by 50%. The checker checks only until the discrepancy is located. Checker security risk is reduced. The system records all adds, deletes, inserts, removes, and checker overrides. The checker can call in and record lot and batch numbers for the item picked. The system generates order-checking adjustment reports and accurate packing slips and maintains orders not checked. Zip-Check can use voice input, bar scan input, or keypad input. The system also has voice output, print output, or visual display.

**Price:** \$12,000 – \$18,000

**Contact:** Harmon Houghton, President  
(201) 348-6688



EXTENDED TECHNOLOGIES CORP.  
1023 Boulevard East  
Weehawken, NJ 07087

### **Zip-Man™**

**PDP-11 Operating System:** Micro/RXS, RSX, RT-11

**PRO Operating System:** P/OS, RT-11, TSX-11

**Keywords:** • Bar coding • Materials handling • Warehousing

This system coordinates the order shipping requirements of distribution warehouses by generating accurate shipping labels, packing slips, and truck manifests as required. Zip-Man also interfaces with bar code scanners, bar code printers, in-line scales, sortation lines, and work-station controllers to provide real-time control of order consolidation or distribution. The system communicates with any host system to receive order information for ship label generation and transmits order status to a host for positive ship acknowledgment. The software can be retrofitted into any warehouse/distribution system to automate shipping label generation, UPS and truck manifesting, and order distribution.

**Price:** \$15,000

**Contact:** Harmon Houghton  
(201) 348-6688

EXTENDED TECHNOLOGIES CORP.  
1023 Boulevard East  
Weehawken, NJ 07087

### **Zip-Pick™ Warehouse Automation System**

**PDP-11 Operating System:** RSX

**Keywords:** • Bar coding • Inventory • Robotics  
• Warehousing

This system coordinates receiving, stock location, warehouse inventory control, order selection, order pick slips, order manifesting, and truck manifesting into an integrated system operating in a real-time environment. Zip-Pick interfaces with the latest automation peripherals (such as bar code scanners, bar code printers, remote RF terminals, paperless picking, in-line weighting, voice recognition, sortation lines, and real-time controllers) to provide for a building-block, fail-safe approach to warehouse automation.

Zip-Pick can be retrofitted into any warehouse environment and communicates with any host system to receive orders. The system operates within existing business management systems and provides the real-time operations control required by warehouse automation.

**Price:** \$60,000

**Contact:** Harmon Houghton  
(201) 348-6688

**EXTENDED TECHNOLOGIES CORP.**

1023 Boulevard East  
Weehawken, NJ 07087

**Zip-Stock™**

**PDP-11 Operating System:** Micro/RXS, RSX, RT-11

**PRO Operating System:** P/OS, RT-11

**Keywords:** • Bar coding • Bill of materials • Inventory  
• Materials handling

This system coordinates receiving, stock locating, and warehouse inventory control requirements in a real-time environment. The software generates a received manifest to verify received quantities and maintains a warehouse zone map that uses commodity activity and cubes to allow for a random location of received merchandise. The system generates stock location tickets and maintains an inventory transaction register to audit and update inventory transactions. Zip-Stock interfaces with bar code scanners, bar code printers, voice recognition, remote RF terminals, sortation loops, and real-time controllers to automate the warehouse receiving function.

Zip-Stock is unique in that it can be retrofitted into any existing warehouse management systems to communicate stock locations and receiving transactions.

**Price:** \$15,000

**Contact:** Harmon Houghton  
(201) 348-6688

**EXTENDED TECHNOLOGIES CORP.**

1023 Boulevard East  
Weehawken, NJ 07087



## Earth Resources



Camerique

**ABC/Gas****PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS, RSX**Keywords:** • Decision support • Pipeline simulation  
• Production control

Memory required: 120K minimum.

ABC/Gas, written in COBOL and FORTRAN, is a generalized model to fit any gas company. This decision aid enables managers to try alternative strategies covering firm and interruptible supplies, storage and peak-shaving, and firm and interruptible markets without risk, prior to making long-term commitments or short-range dispatch decisions. The model develops an optimum gas market-supply dispatch for each set of input data conditions and computes the resulting economic consequences. The system can answer an unlimited number of what-if questions, such as the following:

- What mix of pipeline gas, peak-shaving, storage, winter service, and SNG and LNG supplies will maximize the gross profit margin?
- How much future gas supply will be economic to contract for, given a range of growth prospects and prices?
- How will customers be affected by new gas decisions, and what is the impact of incremental pricing?
- What will be the deficiencies of firm and interruptible sales under various weather conditions?
- Will there be unsold surplus or take-or-pay penalties?
- How should storages and peak-shave plants be dispatched day by day and during the winter season?
- What additional peak-shaving or storage, if any, is desirable?
- What impact will growth have on the cost of service?

A version of this product is available for VAX computers.

**Price:** Available upon request**Contact:** V. W. Ruskin  
(604) 682-3808ABC MANAGEMENT SYSTEMS INC.  
805 Dupont Street, Suite 3  
Bellingham, WA 98225**APR (Automated Production Reporting) System****PDP-11 Operating System:** RSX**Keywords:** • Inventory • Production control • Scheduling  
• Warehousing

This system is designed to meet the finishing and shipping needs of the modern paper mill. This flexible system is tailored to meet the particular scheduling and roll-handling procedures of each mill. Wherever mill operation allows, the APR System gathers information from data sources directly, bypassing operator entry to minimize costly data transcription errors. Features of the system allow direct data communication with mill business computers and paper machine computers,



direct capture of lineal footage and scale weight, and automatic verification of roll conveyor sequencing.

The information stored in the APR System is available at operator terminals located throughout the mill. Typical installations include terminals in the operations and planning office, at the winders, on the finishing floor, and in the shipping office. At those terminals, simple operator entries cause the system to display the contents of a selected file, print a copy of the file, or print shift production reports, mill order copies, shipping tallies, and customer order production records. Those reports may also be transmitted to a host computer system through direct link or diskette.

The APR System also manages dock and warehouse location. Through a few easy-to-use commands, a shipping clerk assigns rolls to and retrieves rolls from any inventory location. Rolls are stored in the system by grade, size, customer number, and warehouse location to allow easy retrieval to complete a particular order.

**Price:** \$20,000 – \$50,000

**Contact:** Robert C. McGill  
(713) 869-9371

HOUSTON ENGINEERING RESEARCH CORP.  
7250 Wynnwood, Houston, TX 77008  
P.O. Box 3246, Houston, TX 77253-3246

## **ERDAS Image Processing and Geographic Information System**

**PDP-11 Operating System:** RSX

**Keywords:** • Geoscience • Graphics • Mapping

These image processing and computer mapping systems serve site engineering, land management, remote sensing, mineral exploration, forest management, and military terrain applications. Image processing capabilities allow mapping of satellite and aircraft multispectral data, which is then merged with geologic, topographic, land use, hydrologic, economic, demographic, and other data sources for geographic applications associated with resource management and development.

The system's activities range from digitizing information to mapping geographic products that fit project requirements. The technology includes new methods for remote sensing from satellites, image processing, computer mapping, color display of data, environmental impact analysis, mineral exploration, land management, planning, and decision analysis. Computer graphics and automated mapping are valuable for displaying geographic relationships clearly and concisely, showing where activities should be located or excluded.

A version of this product is available for VAX computers.

**Price:** \$35,000

**Contact:** Bruce Q. Rado  
(404) 872-7327

ERDAS, INC.

430 Tenth Street, N.W., Suite N206

Atlanta, GA 30318

## ES-LOG

**PDP-11 Operating System:** RSX

**Keywords:** • Geoscience • Petroleum

This menu-driven log analysis program allows the user to input well log data to a data base from wireline service company tapes, through a digitizer or manually. The user can then analyze this data on a color graphics terminal or execute in a batch mode. Intermediate or final results, including standard or user-defined models, can be sent to a color copier, printer, plotter, or archive tape.

A version of this product is available for VAX computers.

**Price:** \$49,000 - \$78,000

**Contact:** Joseph D. Lillard

(303) 762-0285

ENERGY SYSTEMS TECHNOLOGY, INC.

3669 S. Huron Street, Suite 202

Englewood, CO 80110

## Log and Lumber Inventory Systems

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Bar coding • Information management

• Inventory

This system keeps track of multiple yards, bundles, rafts or docks, and ships of logs by individual bar code or non-bar code log tags. The system has all information about logs stored by tag number. Information includes species grade, measurements, total footage (gross and net, automatically calculated), split-log information, bureau certificate number, and many other fields. Outputs are available with subtotals by species, grade, bundle, and/or dock/raft. Lumber Systems keeps track of inventory and allows the user to make up orders from open stock or from ticketed stacks. Restacking is allowed and done automatically. The system can be easily bar coded, allowing quick and easy physical inventory to be taken and a variance report received from the system. The system was designed under stringent Northwest requirements and conditions.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** Available upon request

**Contact:** John Logan

(503) 297-1627

DENNISON EASTMAN CORP.

6400 S.W. Canyon Court

Portland, OR 97221



**OGA\$ (Oil and Gas Accounting System)****PDP-11 Operating System:** Micro/RSTS, RSTS**Keywords:** • Accounting • Financial management • Petroleum

This computer-based interactive, integrated accounting and financial system is tailored for the small to medium-size oil and gas company. The system handles multicompartment operations, with automatic intercompany transactions; provides instant access to data files; features interactive data entry and editing; and integrates the accounts payable, payroll, AFE, joint interest billing, and revenue distribution systems with the general ledger. Transactions between those systems are made automatically.

OGA\$ provides applications in the following areas:

- Accounts payable: Complete processing of invoices, with general ledger distributions, aging of payables, cash-requirements forecasting, and printing of voucher checks
- General ledger/financial statements: Profit and loss, balance sheets, budgetary and comparative financials, audit trails, AFE reporting, and transaction reporting by lease
- Joint interest billing: Preparation of investor invoices and statements, accounts for prepayments by owner by lease, and recording of operator's share in general ledger
- Revenue distribution: Maintenance of revenue suspense and wind-fall-profits, excise tax data, preparation of revenue distribution checks, and purchaser-oriented entry of revenue items
- Management reporting: Lease well-history reporting for property management and for payout status, lease cash-flow reports for tax reporting, and lease economic analysis
- Lease records: Complete tracking of lease inventories, rental forecasts, critical-date monitoring, preparation of partner billings, and rental checks
- Payroll features: Preparation of payroll checks, maintenance of payroll history, handling of rig payrolls by rig/job, and preparation of W-2 reports

A version of this product is available for VAX computers.

**Price:** \$25,000 – \$55,000

**Contact:** Larry D. Gatlin  
(915) 687-2226

TECHTRONIC DATA SYSTEMS, INC.  
407 N. Big Spring  
Midland, TX 79701

**OMS (Oil Movement System)****PDP-11 Operating System:** RSX

**Keywords:** • Data collection • Inventory • Petroleum  
• Process control

This automated approach to "normal" supervisory data acquisition and control functions is used to monitor and control product movements in tank farms, refineries, and petrochemical plants. The basic philosophy is to acquire information about the elements of an oil movement facility on a periodic high-speed basis, process (verify and limit check) the data, and present it to an operator, on demand, through an interactive CRT console.

The operator inputs data and control commands through the CRT, and the system performs the desired functions. Information flow is coordinated by a central processor that can communicate with various types of peripherals, remote stations, and other computers. In addition to the data acquisition and open-loop control processes, the OMS performs extensive data logging, calculates and maintains inventory information, performs and monitors product transfers, analyzes new data for alarm conditions, and periodically executes diagnostics to ensure the integrity of the system, the validity of the data, and sources of data errors.

**Price:** \$20,000 – \$50,000

**Contact:** Eugene E. Chovanec  
(713) 869-9371

HOUSTON ENGINEERING RESEARCH CORP.  
7250 Wynnwood, Houston, TX 77008  
P.O. Box 3246, Houston, TX 77253-3246

### Process Supervisory Control

**PDP-11 Operating System:** RSX

**Keywords:** • Chemical • Materials handling • Process control

This package, offering supervisory control and report generation, is applicable to most process control applications, with special emphasis on water and waste water treatment.

**Price:** \$25,000 – \$100,000

**Contact:** James Morgan  
(605) 692-6145

DAKTRONICS, INC.  
P.O. Box 128  
Brookings, SD 57006

### TIP (Tankage Inventory and Yields Programs)

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Chemical • Inventory • Petroleum  
• Report writer

This interactive inventory, transfer accounting, and yield system is designed for refiners and petrochemical companies. TIP provides inventory, yields, and transfer accounting reports within minutes.

Data entry is error-checked at entry time to provide inventory reports at the rate of 3 seconds a tank and transfer reports at the rate of 13 seconds a transfer, entry time included. For a 100-tank refinery, the



total process takes about 25 minutes a day. Using the optional AID report writer, nonprogrammers can design and run custom reports with two hours of training.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$14,000

**Contact:** W. G. Welter

(713) 373-1905

ADVANCED MANAGEMENT TECHNOLOGIES

P.O. Box 71

Cypress, TX 77429

#### **TMS-4 (TANO Macro System, Version 4)**

**PDP-11 Operating System:** RSX

**Keywords:** • Energy • Petroleum • Process control  
• Public utilities

TMS-4, designed for supervisory control and data acquisition in the oil and gas industry, runs on a PDP-11/44 under RSX-11M Version 4. TMS-4 is an integrated system that provides monitoring and control of pipeline networks that transport liquid or gas product. TMS-4 can accommodate up to 4000 monitoring and control points and has been installed for oil and gas pipeline systems, oil and gas production facilities, tank farm facilities, geothermal well sites, and gas dispatch centers.

TMS-4 includes data acquisition and processing tasks, color graphics CRT displays with keyboards, alarm/event logging, automatic failover to the back-up CPU, interactive CRT page creator, and data base on-line editing and management. Also available are special applications, such as batch tracking, leak detection, product accountability, and AGA-3 calculations.

**Price:** \$500,000

**Contact:** Ron Gumina

(504) 254-3500

TANO CORP.

4301 Poche Court West

New Orleans, LA 70129





## Education



Irene Schwachman/The Picture Cube

## **ABACUS**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Calculation aids • Mathematics  
• Numerical analysis

ABACUS is a didactic tool, written in Pascal, for mathematics courses in secondary schools and for undergraduate courses on differential and integral calculus, differential equations, and numerical mathematics. ABACUS is a highly interactive system; the dialog can be performed in either a beginner's state or an advanced state. One can easily switch from one state to the other.

ABACUS provides the user with tools to define constants and functions of one or more variables. One or more functions can be graphically displayed; zeros of functions can be computed; derivatives and definite integrals can be computed; functions can be evaluated; and differential equations can be solved.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Robert Piessens  
32-1-620-0656

KATHOLIEKE UNIVERSITEIT LEUVEN  
Department of Computer Science  
Celestijnenlaan 200 A  
B-3030 Heverlee Belgium

## **Academic Management Systems**

**PDP-11 Operating System:** RSTS

**Keywords:** • Scheduling • Statistics

The packages include school scheduling, maintenance of grade files, records of attendance, and records of objective-test scores. All programs are menu driven, and on-line help is provided. A bell calls attention to questionable input. Any change affects all relevant files. This system was developed over a period of nine years by the director of studies at a major school. A manual is provided. Letters of reference are available from other schools using the packages.

**Price:** \$3500 - \$6000

**Contact:** Dr. Wade C. Stephens  
(609) 896-1844

ACADEMIC MANAGEMENT SYSTEMS  
c/o The Lawrenceville School  
P.O. Box 6008  
Lawrenceville, NJ 08648

## **ARCHON: ADMISS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Recruiting



**ARCHON: ADMISS** automatically processes prospects through the admissions stages. Features include on-line query and update, automatic follow-up and tracking, five value levels for prospects, nontechnical operations, flexible report formats, ad hoc reports, letter-quality printing, flexibility to meet changing requirements, personalized letters, user-defined value levels, controlled feedback, and simultaneous input and output.

A version of this product is available for VAX computers.

**Price:** \$6650 – \$10,300

**Contact:** Ila Sunshine  
(203) 728-6777  
QUODATA CORP.  
266 Pearl Street  
Hartford, CT 06103

### **ARCHON: BILLS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing

**ARCHON: BILLS** solves the ongoing need for controlling funds owed to the institution by the student population or membership. This system provides flexibility to meet unique requirements, ease of use by nontechnical personnel, and immediate access to information. An interactive terminal orientation permits the combination of minimum personnel involvement with timely control of financial reporting. Features include on-line data entry and inquiry, flexible report generation, single entries that charge many bills, accounts receivable aging reports, maintenance of student account history, user-defined transaction types, default answers to speed data entry, transaction batch control, and linkage to the financial accounting system. **BILLS** interfaces to the **ARCHON: FRS** Financial Reporting System.

A version of this product is available for VAX computers.

**Price:** \$8280 – \$9100

**Contact:** Ila Sunshine  
(203) 728-6777  
QUODATA CORP.  
266 Pearl Street  
Hartford, CT 06103

### **ARCHON: STUDENT**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Scheduling

This student information and on-line registration system integrates information on total enrollment with data management to provide great flexibility. Competitive and financial pressures dictate increasingly sophisticated management reporting. **STUDENT** answers with fast on-line inquiry and a do-it-yourself report generator. **STUDENT**

strikes a balance between computer-oriented repetitive tasks and the requirement for human intervention.

Features of the menu-driven system include on-line terminal entry, create-it-yourself reporting, customized data definitions, registration or preregistration at any time, course-overflow checking, class lists on request, student schedules, grade reports, transcript labels, faculty workloads, class rank by year, a listing of nondeposited students, and a student housing directory.

A version of this product is available for VAX computers.

**Price:** \$8800 - \$10,800

**Contact:** Ila Sunshine  
(203) 728-6777

QUODATA CORP.  
266 Pearl Street  
Hartford, CT 06103

## Attendance

**PDP-11 Operating System:** RSTS

**Keywords:** • Scheduling

The Attendance package is created from the scheduling file, which is listed in Student Records and interfaces with the Registration File, which also is listed in Student Records. Period-by-period absences, tardies, and dismissals in user-defined categories are recorded. Daily attendance lists show the student's name, the periods absent, the initials of the teacher recording the absence, and the total number of days absent for each period. Total absences, total consecutive absences, and half-day absences are calculated and reported. A counselor's report lists all classes missed for every student assigned to the counselor. A summary list for each teacher shows names and dates of absences for each period taught by the teacher. Monthly and year-end summaries print total dates and day-of-week absences for every student in every period. Input is from cards or screen. The cumulative figures are automatically updated as information is entered. Inquiries by day display the student's schedule and indicate, after each period, whether the student was tardy, suspended, absent, and so on. Utilities exist to do file maintenance and updating.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Edward J. Mackniak  
(800) 243-3177

SYSTEMS ELEVEN, INC.  
One Pomerag Office Park, Suite 105  
Southbury, CT 06488



**AVID****PDP-11 Operating System:** Micro/RXS, RXS, RT-11**PRO Operating System:** P/OS, RT-11**Keywords:** • Computer-aided instruction • Query facilities

AVID is a cost-effective CBT system for the complete line of DIGITAL computers. AVID features a unique natural-language processor that allows students to ask questions in English. AVID also includes facilities for response-contingent presentation of textual and graphics information.

A version of this product is available for VAX computers.

**Price:** \$240 - \$5500

**Contact:** Richard Cuff  
(215) 644-7717

ADVANCED INTERACTIVE SYSTEMS, INC.

46 Darby Road  
Paoli, PA 19301

**CADA-1983 (Computer-Assisted Data Analysis Monitor)****PDP-11 Operating System:** CTS-300, RSTS, RT-11**Keywords:** • Data base management • Graphics

• Menu handlers • Statistics

CADA, a menu-driven conversational statistical package using modern methods of exploratory and Bayesian confirmatory data analysis, is a full relational data base management system providing for the entry, storage, editing, and transfer of data sets and communication with external storage devices and laboratory computers. The package provides modern graphic displays of 1- and 2-dimensional data sets; a variety of nonconjugate prior-distribution Bayesian analysis; assessment procedures for determining Bayesian prior probabilities and utilities, based on coherence testing procedures; various quota-free and restricted selection decision-theoretic paradigms; full-rank ANOVA and MANOVA; modern methods of Bayesian simultaneous estimation; psychometric methods for test construction, item analysis, item bias analysis, test equating, factor analysis, scaling, and cluster analysis; and a facility for computing the desired characteristics of standard statistical distributions and such special distributions required by the methods listed above.

**Price:** \$450

**Contact:** Melvin R. Novick  
(319) 353-6705

UNIVERSITY OF IOWA

356 Lindquist Center  
Iowa City, IA 52242

## CAI (Computer-Assisted Instruction Package)

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Computer-aided instruction

Memory required: 31KB.

The CAI system of programs handles instructor-written tests and quizzes on those texts. A weighting algorithm is used to modify the students' scores as a function of the time allowed for each quiz and the time used by the students. DECUS number 11-696.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## CAMPUS (Campus Planning Package)

**PDP-11 Operating System:** RT-11

**Keywords:** • Forecasting • Modeling/simulation  
• Planning aids

### 1. Cross-Over Matrix

**Inputs:** Student course hours  $\times$  major subject  $\times$  division; faculty/student ratios; space standards (classrooms, laboratories, offices); average construction costs

**Outputs:** Departmental student + staff FTE (full-time equivalent); annual space increments  $\times$  space type; future construction outlays

### 2. Student Housing and Transportation Projections

**Inputs:** Questionnaire responses and national averages regarding housing and transportation choices

**Outputs:** Housing demand  $\times$  housing type; parking demand, transit loading

### 3. Faculty and Staff Housing and Transportation Projections

Same as 2. above

### 4. Facilities Master File

**Inputs:** Detailed building inventory, including type, size, cost elements (plumbing and electrical, floor area ratios, and design and construction staff)

**Outputs:** Inventory of existing buildings

Preliminary specifications of future buildings and construction outlays

### 5. Campus Building Project Scheduling Program

**Inputs:** Definition of campus construction process in 8 phases and 200+ actions

Project architect reports on weekly progress and delays

**Outputs:** Campus planning committee summary reports



## 6. Student Facility Demand Projections

**Inputs:** Per capita use of recreational and commercial facilities

**Outputs:** Aggregate demand, space requirements, and construction delays

**Price:** \$1000 – \$1750

**Contact:** David Bradwell, Ph.D., President  
(415) 479-4980

DAVID BRADWELL AND ASSOCIATES, INC.  
880 Las Gallinas Avenue  
San Rafael, CA 94903

## CASANOVA (Computer-Assisted Instruction in Analysis of Variance)

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction • Statistics

Memory required: 8K 16-bit words (overlaid).

The CASANOVA package of programs and text files concentrates on teaching the computations involved in ANOVAs without confining the instructor to a particular orientation or text. The usefulness of the package rests on the assumption that performing ANOVA computations with the aid of the computer will contribute to the user's understanding of the logic behind the computations. CASANOVA does the computations quickly and provides feedback to partial solutions in order to monitor the student's performance. CASANOVA users should have had some introductory study of statistical inference, hypothesis testing, and 1-way ANOVA before using the package.

The package consists of 21 BASIC-PLUS programs and 18 virtual core files containing text of instructions and help messages for users. Documentation consists of a student's manual and an instructor's manual. DECUS number 11-222.

**Restrictions:** The package requires about 500 blocks of disk space for its own source and text files and additional (variable) space for users.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## CAST® (Computer-Assisted Self-Training)

**PDP-11 Operating System:** XENIX™

**PRO Operating System:** PRO/VENIX™

**Keywords:** • Computer-aided instruction • Programming tools

CAST is an authoring system for developing, managing, and executing computer-aided instruction (CAI) courseware. CAST is powerful enough to interest serious programmers yet simple enough to be used by nonprogrammers.

CAST's vocabulary is a superset of the PILOT language. Special CAST features include the use of split screens, limited graphics, any UNIX\*

process, and other scripts as subroutines; the recording of student performance for later analysis; the ability to direct standard manufacturer audio/video devices; and the generation of random numbers. CAST allows for pauses (think time) and automatic recueing when no answer is obtained within a definable interval. Multiuser installations are supported. The educational applications of CAST are numerous; CAST is designed to support business and industrial training.

A minimum memory of 64K is required. The system is written in C language. Custom installation is accomplished through telecommunications. CAST is terminal independent and can be used with a mixture of terminals possessing cursor positioning commands. Hard-copy terminals are also supported. TERMCAP is used when available.

VENIX™ is a trademark of VenturCom, Inc. XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$795 – \$10,000

**Contact:** Kathleen Olney  
(315) 337-1000

MASTER CLASS CORP.  
1721 Black River Boulevard  
Rome, NY 13440

### **CLASS — Education Accounts Payable A/P System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • General ledger

This total accounts payable system with complete interface to the general ledger provides a daily listing of checks written; a check balance report by year, month, status, and check number; a check audit report by bank, year, and selected months; a check register sequence by check number or voucher number; a check report by paid date; report and status of voided checks; a voucher proof listing; open-voucher, paid-voucher, and missing-voucher reports; complete voucher registers by company and division; voucher distribution to the general ledger; and a vendor name and address list.

A version of this product is available for VAX computers.

**Price:** \$2500 – \$5000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544

RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **CLASS — Education Admission System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Information management  
• Recruiting



This package enables the admissions office to respond immediately to inquiries, to process application documents, and to continually provide current information for the prospective student. Information on the type and number of inquiries, analysis of recruiting efforts, and profiles on accepted students are available as required.

A version of this product is available for VAX computers.

**Price:** \$3500 – \$7000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **CLASS — Education Alumni/Development System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Fund raising  
• List processing

This alumni/development system provides a base for soliciting, acknowledging, and generating mailings for any group. The Alumni/Development System can produce personalized letters, solicitations, gift acknowledgments and receipts, and mailing labels for alumni or donors. A variety of reports can be generated by using the system's reporting capabilities.

A version of this product is available for VAX computers.

**Price:** \$2500 – \$5000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **CLASS — Education Billing and Receivables System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing

This student billing and receivables system generates billing and statements. Tuition and fee expenses are calculated automatically, based on specifications defined by the institution. Student billing can be handled by individual bills generated at registration and by group generation of monthly statements.

A version of this product is available for VAX computers.

**Price:** \$3500 – \$7000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **CLASS — Education Personnel System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Employment • Personnel • Recruiting

This personnel system monitors job applicants and tracks employees from hiring to termination date. All pertinent personnel information is tracked from the time of application through employment to termination.

A version of this product is available for VAX computers.

**Price:** \$2500 – \$5000

**Contact:** Elvin E. Smith or Forrest E. Weddle

(913) 782-8544

RUF CORP.

1533 E. Spruce

Olathe, KS 66061

### **CLASS — Education Registration System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Information management • Scheduling

This on-line registration system provides inquiry and updating of student information for the registrar. Through single- or multiterminal facilities, preregistration, registration, and add/drop functions are effectively performed. The registrar can generate, update, and print course offerings, course-status reports, closed-class listings, class rosters, and student schedules during the registration process. The timely and efficient processing of demographic data; information for federal, state, and institutional reporting; grade reports; transcript labels; and honor listings are an integral part of the Registration System.

A version of this product is available for VAX computers.

**Price:** \$4000 – \$8000

**Contact:** Elvin E. Smith or Forrest E. Weddle

(913) 782-8544

RUF CORP.

1533 E. Spruce

Olathe, KS 66061

### **CLASS — Educational Financial Aid System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Financial analysis

This student financial aid management system for colleges and universities ensures on-line control of the financial aid process. The aid administrator can do budgeting, awarding, award notification, acceptance, cancellation, and disbursement of funds. The Relational Data Base Management System generates reports to efficiently manage financial aid monies.

A version of this product is available for VAX computers.



**Price:** \$3000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **CLASS — Educational Financial System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Audit • Financial management

This encumbrance system includes budget, cash receipts, journal entries, and general ledger. The system provides clear and complete audit trails for maximum fiscal accountability. All financial reporting is controlled by the designated user offices.

A version of this product is available for VAX computers.

**Price:** \$3500 — \$7000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **CLASS — Educational Payroll System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Payroll • Taxes

This payroll package for educational institutions provides the accurate and timely information required for writing checks and for preparing federal, state, and institutional reports.

A version of this product is available for VAX computers.

**Price:** \$3500 — \$7000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **CLASS — IMPRS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Information management  
• Programming tools • Query facilities

IMPRS is a relational data base software package that allows both technical and nontechnical users to establish and maintain relational data base systems, interactively generate sophisticated reports, and write fourth-generation high-level programs to support application systems. IMPRS is designed to increase programming productivity through the use of a complete data-manipulation language. IMPRS also supports several query-language interface modules that allow

nontechnical users to browse through the data base and quickly produce reports. IMPRS is fully documented and comes with a full complement of utility programs to support the data base and to provide additional flexibility to the user.

A version of this product is available for VAX computers.

**Price:** \$10,000 - \$20,000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **CLASS (College-Level Administrative Software System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Financial management  
• Information management • Management

The CLASS system is a fully integrated college-level administrative software system built around the IMPRS relational data base management system. CLASS consists of the following modules: Admissions, Financial Aid, Registration and Records, Financials, Student Accounts Receivable, and Alumni Development.

A version of this product is available for VAX computers.

**Price:** \$40,000 - \$60,000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **Compendium of (DECAL) CAI Programs**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction

Memory required: 10K-word user area.

Each CAI lesson represents the efforts of two weeks of intensive study during a workshop on such topics as the development of behavioral objectives, orientation related to programming instruction, and extensive work on coding lessons for computer presentation. The CAI lessons were prepared by Berea City School District teachers and administrators who participated in a Computer Staff Development Workshop in July 1975. DECUS number 11-210.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**COSAP****PDP-11 Operating System:** RSTS**Keywords:** • Mathematics • Software utilities • Statistics

Memory required: 8K.

This integrated system of more than 24 programs uses most of the features (virtual core, matrix, facilities, and so on) of BASIC-PLUS. COSAP performs 12 statistical analyses: elementary statistics, histogram construction, student's tests, rank correlation, multiple Pearsonian product-moment correlation, simple regression, multiple regression, polynomial regression, stepwise regression, discriminant analysis, factor analysis, and probit analysis.

COSAP also includes a uniform format for data input and storage for all analyses, the ability to save input data on disk for later analyses, storage for descriptive DATABANK and variable labels, comprehensive data editing and transformation routines, and conversational help messages. DECUS number 11-30.

Note: The manual should be ordered.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

**COSAS (Comprehensive On-Line Student Accounting System)****PDP-11 Operating System:** RSTS**Keywords:** • Accounting • Billing • Financial analysis

COSAS supports a student billing office maintaining up to 12,000 accounts. The system maintains 1000 user-defined transaction codes that regulate all posting activity. All complex accounting analysis is under software control, thus making operating procedures easy to learn and use.

Features of COSAS include flexible search parameters; retention of all transaction detail on each student account for on-line query; 1-time school semester parameter setup; fast posting of transactions and recurring entry posting feature; transaction edit and deletion; individual account audit and aging analysis; registration financial clearance; individual statement printout for any billing period; receipt/voucher/check number lookup; simultaneous access of 15 offices, with 15 users per office; autoscheduler for non-prime time operations; batch posting interface; external general ledger interface; comprehensive audit trails; variable output site assignment; more than 20 reports; a centralized data base; compact file structure (15 mgb will accommodate all programs and data sets, including 160,000 transactions and biographical data for 3000 students); system status utility for monitoring posting activity; remote diagnostics and support; and self-diagnostic utilities.

A version of this product is available for VAX computers.

**Price:** \$3000 – \$5000

**Contact:** Jim A. Wilson, Systems Analyst  
(205) 837-1630 ext. 215  
OAKWOOD COLLEGE  
Huntsville, AL 35896

### **DECAL (Digital Equipment Corporation Author Language)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction

Memory required: 128KB.

This computer-assisted instruction (CAI) authoring system enables teachers with no previous computer experience to provide individualized instruction for students. Written in BASIC-PLUS, DECAL is suitable for use in any subject area and at all grade levels.

Lessons can be up to 50 segments (questions) in length and can be linked with other lessons to form courses and be shared among schools. Instructors can create lessons in the areas of drill and practice, tutorials, quizzes and tests, dialog/inquiry sessions, simulation and games, and problem solving. DECUS number 11-770.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **Dolphin® Curricula**

**PDP-11 Operating System:** Micro/RSTS, RSTS, TSX-PLUS™

**Keywords:** • Computer-aided instruction

This instructional software helps teachers design individualized programs for students, plan instructional activities, and monitor academic achievement. Students work at their own pace in a competency-based program. The programs adhere to specific objectives.

The Dolphin Curricula includes four modules:

- The Math Computation program promotes mastery of basic computation skills for levels 1 through 8. The programs cover basic skills, whole numbers, fractions, decimals, percents, and rates, ratios, and fractions.
- The Math Problem Solving program is a tutorial for levels 1 through 8. A 4-step problem-solving strategy guides the student through word problems. The problems include whole numbers, fractions, decimals, geometry, percents, and rates and proportions.
- The Reading program reinforces reading comprehension, vocabulary, and study skills. Using diagnostic information, teachers may prescribe individualized programs.
- The Language Arts program reinforces grammar, usage, and mechanics skills for levels 3 through 8.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.



**Price:** \$9500 first yr; then \$6500/yr

**Contact:** Randall K. Lowe  
(603) 448-3838

HOUGHTON MIFFLIN CO./TSC® DIVISION  
P.O. Box 683  
Hanover, NH 03755

### **ENGDRL (English Drill) Package**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction

This set of programs provides drill and practice in English punctuation, syntax, grammar, and usage. Problems are generated for each student, providing individualized instruction and/or drill, based on previous performance. Students can proceed through the entire curriculum or receive a review of specific rules. Sessions can serve as drills or as tutorials introducing rules; exercises then reinforce the concepts presented.

The package includes automatic installation programs to enroll students, to drill them in one or all of the topic areas, and to generate reports for teachers. A manager's guide, teacher's manual, student rule book, and a complete curriculum description are also provided.

Students can be enrolled in the Riverdale Math Package and ENGDRL simultaneously or individually. Reports also can be generated for both programs.

**Price:** \$2500

**Contact:** M. Michelson  
(212) 549-8044

RIVERDALE COUNTRY SCHOOL  
5250 Fieldston Road  
Bronx, NY 10471

### **Engineering Science Program Exchange**

**PDP-11 Operating System:** RSX

**Keywords:** • Computer-aided instruction • Engineering  
• Graphics • Modeling/simulation

This library of more than 80 computer-assisted learning packages covers topics in aeronautical, civil, chemical, mechanical, electrical and electronic, and nuclear engineering. Most of the packages are engineering system simulations that a student can investigate by interacting with a computer terminal. The programs are written in ANSI FORTRAN-77 or BASIC; some are available in both languages. Many of the FORTRAN programs use graphics display.

A package comprises a machine-readable source code and supporting documentation containing information for the teacher, the programmer, and the student. Most of the FORTRAN packages have been run on a PDP-11/40; some of the BASIC packages require translation to IAS BASIC before they will run.

A version of this product is available for VAX computers.

**Price:** £20 – £80

**Contact:** P. A. Tinson, Exchange Coordinator  
44-01-980 4811

ENGINEERING SCIENCE PROGRAM EXCHANGE  
Faculty of Engineering, Queen Mary College  
Mile End Road  
London E14NS United Kingdom

## **FINAID**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Decision support  
• Financial planning

FINAID accesses vital financial aid information, providing data on financial aid amounts available to help in formulating individual grants to students. FINAID is integrated with other ARCHON-family systems for admissions (ADMISS), student records (STUDENT), and student billing (BILLS).

A version of this product is available for VAX computers.

**Price:** \$8500

**Contact:** Ila Sunshine  
(203) 728-6777

QUODATA CORP.  
266 Pearl Street  
Hartford, CT 06103

## **GIS® (Guidance Information System)™**

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Computer-aided instruction • Decision support  
• Employment • Presentation aids

This educational and occupational guidance system consists of data bases arranged in files. The 2-year and 4-year college files provide information on more than 3500 institutions. A user's guide explains how to search for a college by various criteria, such as location, major, and cost. The graduate and professional school file is also included. For graduates of colleges and graduate schools, a data base is included that lists corporations having specific hiring goals for new graduates. The financial aid file covers scholarships, work-study programs, and grants for each level of eligibility. The occupational information file details 1025 occupations, including military and civilian jobs. An armed services occupational information file is also included.

The Guidance Information System is available in numerous formats and offers optional materials to accompany the software. A menu-driven guide provides instructions and enables the user to search through each GIS file.

A version of this product is available for VAX computers.



**Price:** \$3100 – \$20,500

**Contact:** Sharon F. Smith  
(603) 448-3838

HOUGHTON MIFFLIN CO./TSC® DIVISION  
P.O. Box 683  
Hanover, NH 03755

### Grade Book

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Data collection • Report writer  
Memory required: 21KW.

This program for storing and averaging student grades permits up to 50 students a class to be entered. Four categories of grades and up to 10 grades a category can be stored. Each grade can be assigned a weight so that weighted averages can be calculated. Grades based on total points achieved can also be used. Printouts can be generated for individuals and for the class, along with a final summary average listing. Low grades for each category can optionally be dropped, with the ability to indicate that a specific grade should not be dropped even if it is the low grade. DECUS number 11-722.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### Grade Reporting

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Data base management  
• Forms management

The report card data base is created from the scheduling file. Utilities exist for changing or deleting existing records and adding records to the file. Grades are posted on preprinted class lists by teachers and are entered on line. Provisions also exist for gathering grades, using optical scanning sheets. Grades can be alpha + or -, numeric, or a combination of the two. Report cards include a schoolwide message, comments, and daily attendance for each class. Grade analysis; D, F, and I reports; honor rolls; grade-point averages; and rank in class are calculated. Permanent record labels and mailing labels are produced at the end of the year.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Edward J. Mackniak  
(800) 243-3177

SYSTEMS ELEVEN, INC.

One Pomerag Office Park, Suite 105  
Southbury, CT 06488

## **GRADES: A Program to Facilitate the Administrative Aspect of Grading**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Decision support • Statistics

This program facilitates the administrative aspect of grading and record keeping. The user can perform descriptive statistical analysis of specific grades and class averages and see pagewide histograms of either. GRADES allows flexibility in grade ranges; grade weights; course letter grades; letter grade values; analysis according to raw scores, percentages of maximum points, or with respect to class averages; and printing class lists of same with or without elements, student names, or numbers. The program interface is designed for nontechnical users, and complete file manipulation is provided. DECUS number 11-738.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **GRADES: Course Managment Program**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Software utilities • Statistics

**Memory required:** 128KB.

This grade-keeping system, developed at California State Polytechnic University, Pomona, is written in BASIC-PLUS. The software is formed by modules that perform functions on a data base stored in the computer memory. The module INIT initializes the master file of one of three courses that the software can support; ENTER, the "main scheduler" program, "calls" the different specialized modules to perform their functions on the data base, based on the user's response to the main menu; NAMES runs at the beginning of the quarter to initialize the data base for any of the three supported courses; SCORE is accessed whenever scores for an evaluation are going to be entered; PRINT produces a hard-copy printout of a course data base; PRINT1 outputs the report to a file in the computer memory for later queuing to the fast-speed printers; and CORET corrects data in the students' records. DECUS number 11-739.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **GRADES (Grading, Recording, and Analyzing Diverse Evaluations of Students)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Calculation aids • Statistics

This 16-program system not only scores objective examinations but also performs detailed item analyses and determines means, standard deviations, and frequency distributions of tests. The system permits the instructor to modify test scores or to enter grades for essay exams and oral or written presentations. The program maintains a



"gradebook" and displays exam scores for posting. GRADES allows the instructor to differentially weigh each student's entries and to establish unique upper and lower limits for each measure prior to calculating the overall course grade for all students. DECUS number 11-338.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **INRAN, OUTRAN: Computerized Question Generation #2**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction

This package allows an instructor to generate tests with questions chosen at random from a large data base. For example, a data base of 50 questions can be created, and each test can consist of 20 questions chosen at random from among the 50. Tests and answer keys are printed separately. The programs can create a given number of tests; or, using the Names Program from DECUS number 11-23 or PIP, a student name file can be created. The tests and answer keys will be printed according to the student names in the file. DECUS number 11-32.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **ISAS (Interactive Student Accounting System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Information management • Scheduling

A complete student accounting system for secondary and vocational education, ISAS can be operated by school personnel and has complete data checking to ensure data integrity. The on-line, menu-driven system contains six modules, as follows:

- The Student Information System is used for entry of the student into the system. The administrator can modify this file. This system displays student data, including personal data, class schedules, current-year grades, and attendance. Additionally, a student register and address labeling are available.
- The Student Scheduling System provides all modules for the complete scheduling process.
- The Textbook Rental System allows the identification and accounting of both textbook and lab fees.
- The Grade Reporting System offers all the functions of grade reporting. The scheduling subsystem is a required module for the Grade Reporting System.
- The Attendance System provides complete attendance by class. CRT entry is standard and allows daily attendance input, individual teacher reports, daily attendance summary, excessive-absence report, and absence-period summary report.
- The Other System includes miscellaneous reports, such as automatic counselor assignment and feeder school transfers with on-line scheduling.

**Price:** \$4900 - \$11,900

**Contact:** David Tortora, President  
(317) 872-7200 or (800) 428-0714

COMPUTER SYSTEMS CORP.

5540 Rock Hampton Court

Indianapolis, IN 46268

## **LEADS: An Interactive Data Base Management System for Education**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Query facilities

The LEADS software gives local school districts an interactive data base management system. The software is appropriate for maintaining a large data base of all student, staff, and financial data and all appropriate data relationships; providing services to several school systems, as each system could have its own independent, secure data base; allowing any user to build a mini-data base for a special application; and teaching data base concepts, as each student can be manager of his or her own data base and operate that data base independently.

The available software includes all the utilities to create and maintain a data base; a powerful, easy-to-use query language; a report writer language; a function package that enables user-written programs to interact with the data base; and documentation intended to fully describe the first four items.

The LEADS software includes few restrictive parameters and several features found in the very good, very expensive commercially available DBMSs. Files are divided into records, which are divided into fields. Records can be related to other records, using pointers and associators. Pointers permit "direct" access to the target record; associators require one or more intermediate steps. Fields can be accessed sequentially or by using an optional ISAM index. Inquiries can be nearly as complex as desired, with little or no regard to the software boundaries of files and fields. Users can make most of their queries with no knowledge of the data structure. A multilevel security system permits school systems to be as legal as they choose with their computer-based data. DECUS number 11-278.

Note: The *LEADS Overview* manual is available only in hard copy. The writeup and three additional manuals (FUNCT.DOC, LMANGR.DOC, QUERY.DOC) are contained on the magtape and disk.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **LEADS (Local Education Agency Data System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Data base management  
• Library science



This well-documented general-purpose interactive data base management system is designed to meet the needs of public education. The nature of the data and the data format are determined by the user; no portion of the data base is predetermined or prestructured. Data relationships that represent the complex relationships found in public education can be easily defined by the user. The system includes an especially powerful QUERY language, ISAM indices, and a report-writing language. LEADS software is appropriate for a single large data base containing all student, staff, and financial data and all appropriate data relationships; a large RSTS/E system providing services to several school systems, as each system could have its own independent, data base; a user-built mini-data base for a special application (for example, curriculum materials management); or teaching data base concepts, as each student can manage his or her own data base.

Files are divided into records, which are divided into fields. Records can be related to other records, using pointers and associators. Pointers permit "direct" access to the target record, whereas associators require one or more intermediate steps. Fields can be accessed sequentially or by using an optional ISAM index. Inquiries can be as complex as desired, with little or no regard to the software boundaries of files and fields. Users can make most of their queries with no knowledge of the data structure. A multilevel security system permits school systems to be as restrictive as they choose with their computer-based data.

Available data base application packages (\$1000) include student/staff data base, instructional materials retrieval system (nonbook), financial data base, inventory, scheduling of students, and grading.

**Price:** \$1000 - \$3000

**Contact:** Frank DiGiammarino  
(617) 862-7500 ext. 117

LEXINGTON PUBLIC SCHOOLS  
1557 Massachusetts Avenue  
Lexington, MA 02173

### **Logo for the Professional 300**

**PRO Operating System:** P/OS

**Keywords:** • Computer-aided instruction • Graphics  
• Programming tools

This friendly and flexible programming language is simple to learn, interactive, and creates a relaxed environment for the development of mathematical concepts and problem-solving skills. Logo can be used to develop learning tools, enhance computer literacy, and develop applications using graphics, mathematics, text handling, and file manipulation. This multitasked implementation uses the P/OS operating system, RMS file services, and the GIDIS graphics package.

This product is distributed worldwide by Digital Equipment Corporation, 146 Main Street, Maynard, MA 01754 (617) 494-3461.

**Price:** \$250

**Contact:** Maisie Cheung  
(514) 631-7081

LOGO COMPUTER SYSTEMS INC.  
9960 Cote de Liesse  
Montreal, Quebec H8T 1A1 Canada

### **Multi-Tester System**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Data base management • Information management

This system gives and grades tests on any subject matter by maintaining a data base of questions and data, including question type (true/false, multiple choice, text), question category (Introduction to Theater, World History, Calculus II, and others), question text (unlimited number of lines up to size of text file), answer text if a text question (unlimited number of lines up to size of text file), and question's answer (if not a text question). The system can generate screen tests or paper tests. Questions on tests can be preselected or randomly chosen when the test is either printed or given at the screen. Screen tests have a user-definable time limit. Tests given at the screen automatically print out a test result report for the teacher, showing what questions were asked, what the student's answers were, what the correct answers were, the student's score on the test, and the student's test average. The computer can grade the test and update the student's record in the file. Since test questions can be randomly selected at test time, the computer can allow a student to take the same test repeatedly and record only the highest score to date. Or the teacher can allow students to take the test without grading them. Then, when the teacher decides that the students are proficient enough (the system maintains a test average for all the times the test has been taken), the system can be directed to begin grading the test. The system also keeps files on classes of students. The information includes the student's SSN, his/her name, the tests he/she has taken and the high score on each test, and other data.

The versatile Multi-Tester System runs on any PDP-11 using FORTRAN IV or VAX using VAX-11 FORTRAN. The system is written in modular form and is easily modified, since source code is available.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$500 - \$700

**Contact:** Mitchell R. Sowards  
(512) 692-0953 (692-3407 after 6 PM Central)

DRAGON SYSTEMS  
8746 Wurzbach Road, Suite 203  
San Antonio, TX 78240



**On-Line Registration System****PDP-11 Operating System:** RSTS**Keywords:** • Scheduling

This package builds student and section files and provides on-line registration, financial aid, and bursaring information. Students may be registered in any manner: high-speed card reader and printer, magtape, low-speed card reader and printer, or CRT. Special inquiry is provided by password to access both student and section information. A complete series of backup programs preserve the data. Various reports are available.

**Price:** Free

**Contact:** Peter Hoberman  
(212) 220-6334

BRONX COMMUNITY COLLEGE  
W. 181 Street & University Avenue  
Bronx, NY 10453

**Payroll****PDP-11 Operating System:** RSTS**Keywords:** • Payroll • Taxes

This comprehensive system accommodates the variations found in the complex school application. The user defines variable pay cycles, deductions, and tax shelters, which can be percentages of fixed amounts of gross pay, net pay, or a subset of either. Multiple pay rates of salary amounts can be assigned to any single employee. FICA and other pension plans are calculated on a daily pay rate basis. Distribution of gross wages can be done by percentage of gross pay or by separate pay rates. Multiple distribution accounts can be assigned to each pay rate. The system determines federal, state, and city income taxes, using a table calculation method. Monthly, quarterly, and yearly reports are provided. All interaction is on line.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Edward J. Mackniak  
(800) 243-3177

SYSTEMS ELEVEN, INC.  
One Pomerag Office Park, Suite 105  
Southbury, CT 06488

**Personnel Administrator****PDP-11 Operating System:** RSTS**Keywords:** • Data base management • Payroll • Personnel

This interactive, user-friendly payroll, payroll distribution, and personnel system, written in COBOL, features menu-driven software modules with computer interfaces and networking capability. Security is ensured with five levels of protection. The software allows real-time processing with instantaneous updating and retrieval of information.

A high level of continuous software maintenance, enhancements, and customer support, along with custom-tailored programming on request, are provided.

Reports include payroll checks, available in nine sorting sequences. The check stubs include all necessary current and year-to-date payment, deduction, and tax information, including declining-balance amounts and alpha description codes. Other reports include check register, a history report, department analysis, deduction listing, monthly analysis, FICA deposit, and audit trail reports. The system also includes summarized data for state and federal reporting, including quarterly reports and W-2s. Numerous voluntary-deduction fields, additional pay categories, and the ability to accommodate several different payroll cycles are provided.

Payroll totals can be calculated and displayed on the screen for all employees, a single department, or a single employee. All extra earnings, deductions, and taxes can be calculated on the screen prior to payroll runs, allowing preparation of deposits. In addition, other control reports can be generated on the screen to check payroll accuracy. The history report records all manually written checks for the time in which they were issued. Pension increases are done automatically at the FICA cross-over point, eliminating unnecessary data entry.

The Payroll Distribution module can be interfaced with the system's Budgetary Accounting module to produce worksheet, master list, employee analysis, and department analysis reports, among others. In addition, direct deposits and bank reconciliations can be accomplished automatically. This service uses a magnetic tape and complies with the requirements of the National Automated Clearing House Association (NACHA). The system can distribute an employee's pay among eight accounts in different financial institutions and produce a check with the undeposited balance.

The Personnel module interacts with the payroll system, enabling the user to record employee attendance and produce daily and monthly reports. The system also records employee biographical, educational history, employment information, medical history, college attendance, degrees earned, credits earned, and salary histories and projections.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Phil Holt, Vice-President, Marketing  
(201) 342-8777

DELTA MANAGEMENT SYSTEMS  
335 Johnson Avenue  
River Edge, NJ 07661



**PLANIT (Programming Language for Interactive Teaching)****PDP-11 Operating System:** RT-11**Keywords:** • Calculation aids • Computer-aided instruction

Memory required: 300K bytes.

PLANIT is a portable, time-shared software system and authoring language for the preparation and delivery of training dialog. Students and authors can use the system concurrently in any mix. PLANIT is designed for instruction, problem solving, drill and practice, computer-adaptive testing, computer-managed instruction, team training, embedded training, automated counseling, and interactive simulations.

The system is easy to learn and use, regardless of the user's prior exposure to computing. A good lesson looks more like a lesson plan than a computer program. Among the many optional automatic features are multiple-student use, session monitoring, and collecting and maintaining performance records.

Ten basic author-controlled options are available for matching and analyzing answers. A powerful calculation mode is included.

A version of this product is available for VAX computers.

**Price:** \$2360 - \$2950**Contact:** Charles H. Frye, Ph.D.

(503) 245-3793

FRYE SOFTWARE UNLIMITED

7200 S.W. Burlingame Avenue

Portland, OR 97219

**Prolog****PDP-11 Operating System:** ULTRIX-11**Keywords:** • Data base management

This implementation of Prolog, written in C, supports a very limited set of built-in predicates. The program provides efficient memory management (last-call optimization), using copying. The program includes a simple single-user relational data base handler (deductive data base).

A version of this product is available for VAX computers.

**Price:** \$70 - \$300**Contact:** M. Bruynooghe

32-1-620-0656

KATHOLIEKE UNIVERSITEIT LEUVEN

Department of Computer Science

Celestijnenlaan 200 A

B-3030 Heverlee Belgium

**PRSN (Personnel)****PDP-11 Operating System:** RSTS**Keywords:** • Personnel

PRSN, a comprehensive personnel system for schools and municipal agencies, contains demographic, education background, medical information, and work experience. Certification status and assignment areas are recorded for the professional staff. Salary and benefit status aid in negotiations and projections. Reports, such as seniority lists, subject-area assignments, cross-certification, and special systemwide directories, are readily produced. A negotiations subsystem allows for fixed rates or percentage increases for each step and level in the salary schedules. Employee attendance is posted to a calendar that appears on the screen, permitting quick visual analysis of absentee patterns. Hard-copy reports are also provided.

A version of this product is available for VAX computers.

**Price:** Available upon request**Contact:** Edward J. Mackniak  
(800) 243-3177

SYSTEMS ELEVEN, INC.

One Pomerag Office Park, Suite 105  
Southbury, CT 06488**QUEST, Standard MUMPS Teaching Program, and DOC****PDP-11 Operating System:** DSM (DSM-11)**Keywords:** • Computer-aided instruction  
• Device drivers/handlers • Operating systems  
• Query facilities

Memory required: 4K MUMPS partition.

These three Standard MUMPS programs provide a basic set of applications for a new user of Standard MUMPS.

- QUEST is a simple questionnaire driver that facilitates the specification and editing by authors of computer-aided teaching programs, the use of those programs by students in learning and in being tested, and the monitoring by supervisors of the use of QUEST. For simplicity, the student's answers must be multiple choice, yes/no, or key phrase. All interactions with QUEST are in English, and no user is required to have computer skills.
- The Standard MUMPS teaching and testing program explains the concept and language features of Standard MUMPS and can test how effectively the student is learning the material presented.
- DOC is a documentation package centered on an automatic cross-referencer, which identifies what and where local and global variables are referenced, what and where commands (particularly those for transfer of control) occur, and the locations of various functions, special variables, comments, and indirection. That data can be printed in different reports both for individual routines and for sets (programs or packages) of routines. DECUS number 11-380.



Associated documentation: A copy of each of the following monographs can be ordered through Polly Raith, Biomedical Computer Laboratory, 700 South Euclid, St. Louis, MO 63110: *QUEST Design Manual*, Monograph #300; *Standard MUMPS Teaching Program Design Manual*, Monograph #335; *DOC Design Manual*, Monograph #301.

Ordering information: Order DECUS Number 11-380A (writeup (AB)) for the explanatory documentation. Some of the text is illegible, but because of the high level of interest, it will be distributed "as is." (See Associated documentation.) Order DECUS number 11-380B (writeup (AA)) for a copy of a paper written on QUEST.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## Registration

**PDP-11 Operating System:** RSTS

**Keywords:** • Information management

This complete child-accounting system contains all pertinent information required for state and federal reporting. User-defined fields allow for storing information unique to a school system. Master registration lists by system, school, grade, and so forth are readily available. This system has been designed around guidelines provided by the U.S. Department of Education, state guidelines, and individual school needs. Information in the following categories is stored and readily retrievable: personal identification; family and residence; physical, health, sensory, and related conditions; tuition; mental, psychological, and proficiency test results and related student characteristics; and enrollment, performance, transportation, and special assistance.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Edward J. Mackniak  
(800) 243-3177

SYSTEMS ELEVEN, INC.

One Pomerag Office Park, Suite 105  
Southbury, CT 06488

## Riverdale Math Package

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction • Mathematics

This set of programs provides drill and practice in addition, subtraction, multiplication, division, number concepts, inequalities, fractions, decimals, negative numbers, exponents and roots, laws of arithmetic, and percents. Problems are generated for each student, providing individualized drill, based on previous performance. The curriculum is divided into topic areas, or strands. The performance stage level of each student is differentiated by strands.

The package includes automatic installation programs for all necessary programs to enroll students, to drill them in one or all of the applicable strands, and to generate reports for teachers. A manager's guide and a teacher's manual with complete curriculum description are also provided.

**Price:** \$2500

**Contact:** M. Michelson

(212) 549-8044

**RIVERDALE COUNTRY SCHOOL**

5250 Fieldston Road

Bronx, NY 10471

### **ROLMAN III**

**PDP-11 Operating System:** RSTS

**Keywords:** • Forms management • Personnel • Statistics

Memory required: 24KW.

ROLMAN is a system of routines for the interactive creation and maintenance of class rolls. The system supports 21 functions. The maintenance function allows ROLMAN to modify, correct the status information, display part or all of the roll at the user's terminal, and print the roll for use as a gradebook. ROLMAN also creates individual reports to inform each student of his/her current standing. The system also provides the user with various statistics. ROLMAN is easy to use and comes with a user's manual, examples, and a guide. DECUS number 11-334.

Note: Files built by previous versions may not be processed by this version and vice versa. The format of the files built by ROLMAN has been modified to conserve disk space. A field for a social security number has been added for each student, and the special information field has been expanded to 40 characters. The number of tests and problems have been expanded to 15 each. The REPORT, DISPLAY, and SELRPT formats have been changed accordingly. A new function, CSSN, has been added to allow for correction of an incorrect social security number.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Scheduling**

**PDP-11 Operating System:** RSTS

**Keywords:** • Scheduling

This on-line interactive system helps the user through the scheduling process from student requests to building the master schedule to printing student schedules. Some features are master schedule building, schedule changes, and class conflict screen; computer scheduling of individual students; generation of daily add/drop lists and updated student schedules; multi-time vector classes; variable class-balancing facilities; course, alternative course, and student priority scheduling; linked or blocked courses; and a study hall subsystem.



The system offers Course Catalog, Student Scheduling, Teacher Catalog, Teacher Schedules, Student Verification, Student Conflicts, Simple Tally, Class Lists, Homeroom Lists, Conflict Matrix, Master Schedule Listing, and many more reports.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Edward J. Mackniak  
(800) 243-3177

SYSTEMS ELEVEN, INC.

One Pomerag Office Park, Suite 105  
Southbury, CT 06488

### **School Business Administrator**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Financial management  
• Financial planning • Inventory

This interactive, user-friendly financial management system for the educational market, written in COBOL, features menu-driven software modules with computer interfaces and networking capability. Security is ensured with five levels of protection. The software allows real-time processing, with instantaneous updating and retrieval of information. A high level of continuous software maintenance, enhancements, and customer support is provided. Custom-tailored software is available on request.

The software combines budgetary expenditure, encumbrance accounting, accounts payable, general ledger, cash receipts and refunds, and financial reporting. Reports provide key management information for financial planning and organizing. Major reports include a check register; checks and check stubs with account number, purchase order number, invoice number, and the amount for each transaction; a chart of accounts; a year-to-date transaction report; a current and year-to-date payment distribution; audit trail reports; and vendor analysis. The vendor file uses 3-letter vendor codes. Year-end summary and 1099 reports are also part of the package. Automatic bank account reconciliation on magnetic tape is available.

Features include control totals to ensure accuracy when inputting transactions, a warning message to indicate when funds available have been exceeded, and the ability to record in-office checks. Current-status reports are available on the screen for immediate access of information. The transaction, payment distribution, account summary, and chart of accounts reports are a few of the on-line reports. The system can handle both program-oriented budgets and line-account budgets and conforms to the Handbook II requirements.

The fixed inventory module tracks items by budget account number, vendor, date of purchase, location, department, category, useful life, serial number, and purchase price. The accounts receivable system includes a cash receipts module, which can be interfaced with the

budget accounting module. On-screen control reports include daily receipt totals, cash receipt reports, and audit trail reports to ensure data entry accuracy. Refunds can be interfaced with the budget accounting module, thereby automatically updating funds available. A few of the major reports included are the chart of revenue accounts, secretary's monthly report, cash-receipt and refund cash receipt registers, and revenue-status detail report.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Phil Holt, Vice President, Marketing  
(201) 342-8777

DELTA MANAGEMENT SYSTEMS

335 Johnson Avenue

River Edge, NJ 07661

### School Fiscal Accounting

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Accounting • Accounts payable  
• Financial management • General ledger

This package of programs for handling the financial affairs of a public institute is based on a fully accrued and encumbered system of interfund accounting for publics. The package handles accounts payable, general ledger, and budget and expenditure reporting. The system is general ledger account code independent, and all transactions post immediately to the general ledger, thus providing up-to-date balances in the general ledger as frequently as transactions are entered. The system supports purchase orders, invoices, general journals, handwritten checks, cash receipts, bank deposits, accounts receivable invoices, journal vouchers, budget setups, and budget adjustments. Accounts payable checks can be written at any time and as often as necessary during the month. All checks are drawn on one fund, and appropriate interfund entries are made to keep funds in balance. The general ledger contains an on-line lookup feature of any account(s). Budget and expenditure reports are provided, along with a balance sheet report by fund.

A consumable inventory and a work order system are also available as subsystems to the fiscal system. The work order system can run alone, and the inventory system could be made to run alone. Each package is an additional \$500.

**Price:** \$2500

**Contact:** John A. Christensen  
(208) 525-7500

IDAHO FALLS SCHOOL DISTRICT NO. 91

690 John Adams Parkway

Idaho Falls, ID 83401



## School Instructional Packages

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Computer-aided instruction • Mathematics

These instructional packages are designed to tutor or drill students in various instructional disciplines. Each package is a series of programs.

- **Elementary Level Instructional Package:** Vol. I drills students on basic math facts with a variety of games. Vol. II drills students further on basic math facts, keeping track of the students who do the most problems in a given amount of time. Vol. III is very elementary in its drill of students on math facts.
- **The Fraction and Decimal packages** teach students about fractions and decimals, respectively.
- **The Division, Percent, and Signed Number packages** tutor and drill students in division, percentage concepts, and signed-number arithmetic, respectively.
- **Reading Package** allows the student to read a passage on the terminal screen and to take a comprehensive test.
- **Phonetics and Comprehension Package** uses more than 3000 words and sentences for each word to drill students on sounds and also provides various word games.
- **Spelling Package** allows the teacher to put the weekly spelling words into the computer and to drill the student on them.
- **CAI Package** allows the teacher to build lessons and administer them to the student through the computer terminal. Records are also kept.
- **Physical Science Package** drills students on several science topics, such as metric conversions.
- **Program Simulation Package** demonstrates the execution of a BASIC program and provides drill on BASIC string functions.

**Price:** \$600

**Contact:** John A. Christensen

(208) 525-7500

IDAHO FALLS SCHOOL DISTRICT NO. 91

690 John Adams Parkway

Idaho Falls, ID 83401

## School Payroll Package

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Cost accounting • Government • Payroll  
• Personnel

This package handles the payroll for public institutes, supporting any typical pay period and handling contract or salaried personnel, time card personnel, or daily-rate personnel. Contracted salaries can be accrued, and adjustments can be made to wages. The package provides for extensive multiple-cost accounting for employee wages. Optionally, leave can be accounted for and automatic adjustments created if leave is exceeded. The system's regular, void, and supplementary payroll procedure provides an analysis of salaried contracts; payroll journal

expense and obligation reports; breakdown of benefits to expense codes; year-to-date, fiscal-to-date, and quarter-to-date reports; deductions registers; and so forth. The system prints 941s and W-2s and also provides for extensive staff accounting, which allows for the printing of a teacher's contract or the costing of a teacher's salary schedules. The system can be run by itself but is also designed to post its transactions to a general ledger if you are using the Fiscal Package. The system is completely on line and can be run remotely using a terminal.

**Price:** \$3000

**Contact:** John A. Christensen

(208) 525-7500

IDAHO FALLS SCHOOL DISTRICT NO. 91

690 John Adams Parkway

Idaho Falls, ID 83401

### **School Student Accounting Package**

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Scheduling

This package of programs handles student records for a given school, providing for preregistration, master schedule-building information, registration through either on-line arena scheduling or automatic scheduling, schedule updating daily, daily attendance by class, and grade reporting, as well as many special features. The package can be run from a remote terminal located in the school's office. The student's record is on line at all times.

The system generates master class, room, student, and teacher schedules; class, course, incomplete, and failure lists; daily attendance and weekly ADA reports; preregistration counts; conflict matrixes; class loads; report cards; honor roll listings; and teacher's grade distribution. A gummed label for the student's permanent record folder can be printed at the end of each semester or year.

A library system that interfaces to this package is also available. An integrated system for kindergarten through twelfth grade will be available in mid-1986.

**Price:** \$3000

**Contact:** John A. Christensen

(208) 522-7490

IDAHO FALLS SCHOOL DISTRICT NO. 91

690 John Adams Parkway

Idaho Falls, ID 83401

### **SCORE**

**PDP-11 Operating System:** RSTS

**Keywords:** • Report writer • Statistics

Memory required: 27K.

This program grades multiple-choice tests with up to 67 questions and answers between 0 and 9, allows penalties for invalid ID numbers and



for each question to count a different number of points (weight). SCORE can produce a report for each student, detailing his/her performance on the test; an instructor's report summarizing the performance of each student in the class; a report analyzing each question and each answer in terms of numbers and percentages of students choosing each; a bar graph analyzing correct answers; and a bar graph showing the numbers of students scoring 90-300, 80-89, 70-79, 60-69, and 0-59.

If ROLMAN (DECUS number 11-334) is installed and used, SCORE can record grades in the ROLMAN files, check for duplicate entries, and obtain information from ROLMAN for printing the reports above. SCORE allows the user to hand grade part of the test and to include the hand-graded score with the machine-graded part of the test. Documentation is minimal but includes examples. DECUS number 11-568.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SIGI (System of Interactive Guidance and Information)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Decision support

This system helps college-bound students and students in college make informed career decisions. The system emphasizes not only the decisions but also the process of decision making. SIGI consists of five subsystems, as follows:

- **Values:** The student examines 10 occupational values, such as helping others, income, independence, and security, and weighs the importance of each one. The student then plays a values "game" to test the validity of the assigned weights and to help redefine his or her value structure.
- **Locate:** The student puts in specifications and gets lists of occupations that meet those specifications.
- **Compare:** The student asks questions and gets specific information about occupations of interest.
- **Planning:** The student gets displays of programs for entering occupations, licensing or certification requirements, and sources of financial aid.
- **Strategy:** The student evaluates occupations in terms of the rewards they offer and the risks of trying to enter them.

A version of this product is available for VAX computers.

**Price:** \$2400

**Contact:** Ray Potter, SIGI Program Manager  
(609) 734-5165

EDUCATIONAL TESTING SERVICE  
Princeton, NJ 08541

### **SofTech® for UCSD Pascal®**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™

**Keywords:** • Computer-aided instruction

SofTech is a computer-aided instruction package for the UCSD Pascal programming language. SofTech progresses step by step through a set of quizzes; one quiz tests your knowledge of UCSD Pascal, and the other quiz requires you to write a Pascal program. A documentation package is included. SofTech requires a UCSD Pascal Compiler.

UCSD Pascal® is a registered trademark of the Regents of the University of California. p-System™ is a trademark of Pecan Systems, Inc.

**Price:** \$39.95

**Contact:** Eli Willner

(718) 851-3100

PECAN SOFTWARE SYSTEMS, INC.

1410 39th St.

Brooklyn, NY 11218

### **SR/SE II (Survey of Reading/Study Efficiency)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction • Report writer

SR/SE II can assist faculty, counselors, and learning skills specialists to diagnose learners' academic study skills and to plan and monitor individual improvement programs for college and senior high school students. SR/SE II generates four computer reports from a 65-item survey that students complete on an NCS transoptic answer sheet:

- **Learner Printout** is a 2-column display that describes a student's strengths and potential problems, based on 16 reading and study skills. A chart depicts a student's efficiency in each of the 16 areas.
- **The Individualized Self-Improvement Contract** lists recommendations for developing, improving, or remediating a student's learning skills. The contract is based on student responses to SR/SE II statements. Individual activities are based on program services and materials that are available on the campus where the student took SR/SE II. A computer program allows each campus to customize the contract according to the resources and philosophy of its learning skills personnel. The program is menu driven.
- **Class Profile** is a computer-generated roster of a class or group that has taken SR/SE II. The program shows the instructor or academic advisor the class's or group's ability in each of 16 learning skills areas. Based on this information, group workshops can be planned, and instructors can identify high-risk students.
- **The Student Roster** is an alphabetized list including student name, ID number, class standing, sex, school, and department.

SR/SE II uses PDP/11s with an NCS 7000-series reader and a printer to process the survey forms and produce the four reports.



**Price:** \$295

**Contact:** Francis L. Christ  
(213) 498-4186

**PERSONAL EFFICIENCY PROGRAMS**

P.O. Box 3312

Seal Beach, CA 90740

**Student Administrator**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Scheduling • Statistics

This interactive package, written in Pascal, consists of the Biographical, Scheduling, Attendance, Grade Reporting, and Transcript modules. The menu-driven modules provide English-language prompts, computer interfaces, networking, and five levels of security protection. The system allows real-time processing with instantaneous updating and retrieval of information. A high level of continuous software maintenance, enhancements, and customer support, along with custom-tailored software on request, are provided.

All modules are driven by the Biographical module; changes in that module are automatically reflected throughout other modules, eliminating repetitive data entry. The Biographical module consists of student biographical, family, and medical information. The medical portion tracks doctor and hospital information, medical conditions, referrals, and exclusions. Biographical reports include master and homeroom lists, mailing labels, emergency data, and town tally reports for regional boards of education. A locker subsystem tracks lockers and locker numbers.

The Scheduling module includes master scheduling, preliminary scheduling, and conflict/matrixes. During preliminary scheduling, the option to override seating capacity is available. Teacher schedules and room schedules are also available. Simple tallies and conflict/matrixes can be used to calculate pupil course requests so that master schedules can be created efficiently.

The Attendance module allows a user to generate period, daily, and monthly attendance reports. Attendance can be recorded by full or half days, suspensions, and tardies by the hour. Correlation reports can track truancy and the percentage correlation between student absences. Reports included are state registers, correlation reports, excessive-absence reports, school calendars, absentee phone lists, and audit trails, which are a history of student attendance for any specified time span.

The Grade Reporting module offers two report cards: one with both class and school attendance and the other with school attendance only. Report cards include coded comments. Class rank can be calculated according to cumulative GPA. Honor rolls can be set up; a user-defined GPA table has nine levels in order to weight honor classes. Final-grade averaging can also be accomplished with a user-defined table. A grade-

verification report allows teachers to verify student's grades; the teacher's grade-distribution report indicates the distribution and the percentage of grades by teacher. Midterm progress reports can be generated, and special student needs can be tracked. Transcripts can also be generated through the system. The system is designed to track a student from kindergarten through high school and to retain information for four years in order to produce automatic transcripts.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Phil Holt, Vice President, Marketing  
(201) 342-8777

DELTA MANAGEMENT SYSTEMS  
335 Johnson Avenue  
River Edge, NJ 07661

### **Student Terminal Management System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer operations • Scheduling

Memory required: 17KW.

This system automatically handles scheduling of student terminals on a first-come, first-served (one-hour-on, one-hour-off) basis. Provisions are made to send messages to all student terminals and to ascertain the users and their programs. Terminal usage can be formatted for printout to teachers, or usage percentage can be plotted on a VT100 with hard-copy backup to justify resource changes. The available terminal list can be dynamically changed at any time. DECUS number 11-654.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Tutor**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction

Memory required: 8K.

Tutor teaches the user how to use the computer but can be adapted for other teaching purposes as well. Provisions are made for review work and for progressively difficult tasks. DECUS number 11-205.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TUTR: BASIC Tutoring Programs**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction

Memory required: About 6K.



This package of programs tutors the user in the elements of the BASIC language and RSTS-11 commands. To use the self-documenting programs, the user loads all programs from the DECtape onto the system disk and runs TUTR01. From that point on, the programs will tell the user what to do and which programs to run next. DECUS number 11-25.

Note: Programs are self-documenting. TUTR01 through TUTR17 are included.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **UNIX\* System Tutorials**

**PDP-11 Operating System:** XENIX™

**Keywords:** • Compilers • Computer-aided instruction  
• Development tools • Operating systems

The UNIX\* System Tutorials, developed by User Training Corporation, are a new method of learning the UNIX\* system. The series of courses provide you with an inexpensive, one-on-one style of instruction. The innovative audiodigital process, using standard audio cassettes, permits live recordings of on-line instructional sessions to be played back to your CRT terminal. The tutorials are an effective way to introduce the UNIX\* system to your in-house development or clerical personnel. The UNIX\* System Tutorials include courses for both technical and nontechnical personnel, spanning the important topics in the UNIX\* system, as well as courses on C programming and the Multiplan® Electronic Worksheet.

\* UNIX is a trademark of AT&T Bell Laboratories. Multiplan® is a registered trademark of Microsoft, Inc. XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$200 (rental) - \$476 (rental)

**Contact:** Lee Tyler

(408) 425-7222

THE SANTA CRUZ OPERATION, INC.

500 Chestnut Street

Santa Cruz, CA 95060

## **Wabash College Student Information System**

**PDP-11 Operating System:** RSTS

**Keywords:** • List processing • Statistics

Memory required: 28K.

Wabash College has implemented its nonfinancial data processing on its RSTS system in BASIC-PLUS. The system handles student registration, grade reporting, alumni and applicant record keeping and reporting, and many types of mailings. Most file updating is done directly by the secretarial staff of the responsible office by way of a

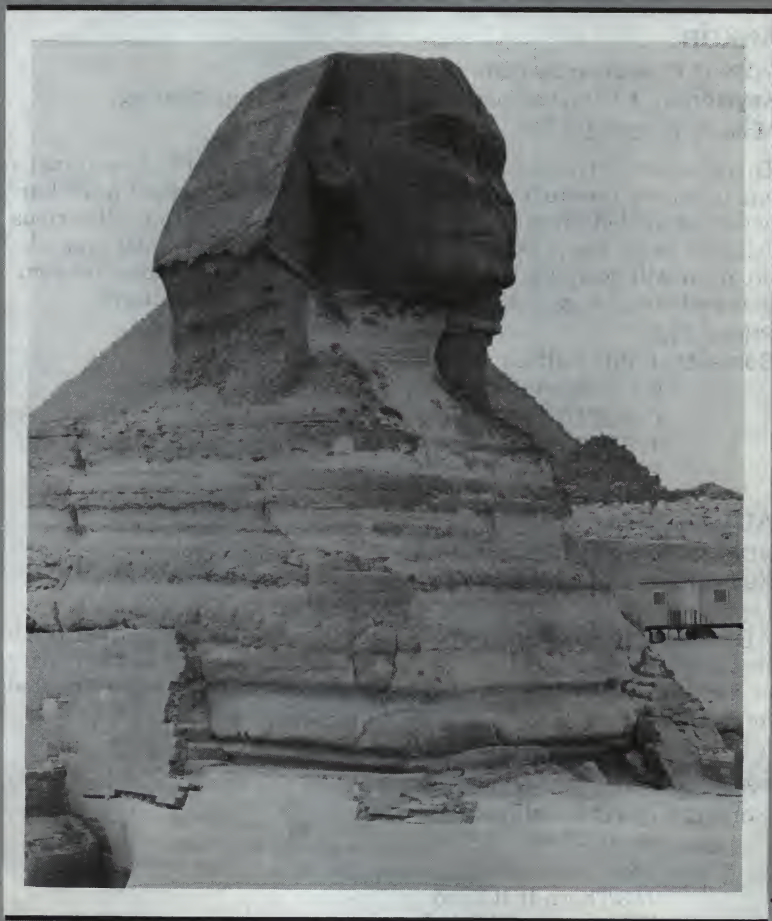
remote terminal. Thus, each office served can maintain protection for those files and reduce staff requirements at the computer center. DECUS number 11-43.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



## Engineering



Robert Pyle

### **AC Circuit Analysis Program**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Electrical

Memory required: 8K.

Given specific data about circuit elements, this BASIC program analyzes the AC frequency response of a linear network. Data may include resistors, inductors, capacitors, independent and dependent voltage, and current sources. DECUS number 11-12.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **ANKOR**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, computes thrust values at turns and bulkhead types of conditions and is designed to be used when harnessed or welded joints are required due to thrust conditions. If various cylinder gages are permitted, as with pretensioned cylinder pipe, the program will compute the distance for each gage. Stations are computed where each gage should change due to thrust conditions.

**Price:** \$125

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### **AUTO-CHEM**

**PDP-11 Operating System:** RSX

**Keywords:** • Chemical • Data collection • Instrumentation  
• Process control

AUTO-CHEM provides architectural design services to industrial-instrumented analysis laboratories for speed, accuracy, and longevity of instrumentation. AUTO-CHEM computerizes multiinstrumented analysis laboratories.

A version of this product is available for VAX computers.

**Price:** \$15,000 - \$30,000

**Contact:** David L. Schroeder  
(412) 776-3130

PROCESS CORP.

163 Thorn Hill Road  
Warrendale, PA 15086



**BASIC and FORTRAN Support Packages****PDP-11 Operating System:** RSX, RT-11**Keywords:** • A/D, D/A • Data collection • Data conversion  
• Development tools

These software driver routines allow the user to easily access the data acquisition box parameters and data. Routines are written so that the user can extrapolate individual subroutines for use in the customers' dedicated software packages without incurring additional development time. Packages are available in BASIC and FORTRAN.

**Price:** \$195**Contact:** Richard Wiedeman  
(617) 481-1684

SERIAL LAB PRODUCTS

P.O. Box 766

Marlboro, MA 01752

**BDARE: Dynamic-System Simulation in BASIC****PDP-11 Operating System:** CTS-300, IAS, p-System™, RSTS, RSX, RT-11**Keywords:** • Chemical • Education • Modeling/simulation  
• Research

This software package supports VT-11 and VS-60 graphics, permits multirun simulation studies (for example, parameter optimization), and is well suited for interactive experimentation, since there are no delays for compilation and loading. BDARE offers either Runge-Kutta-Heun or Runge-Kutta-Merson (variable-step) integration.

p-System™ is a trademark of Pecan Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$110**Contact:** G. A. Korn  
(602) 298-7054

G. A. AND T. M. KORN, INDUSTRIAL CONSULTANTS

6801 E. Opatas Street

Tucson, AZ 85715

**BFTHK****PDP-11 Operating System:** RSTS, RT-11**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, computes the thickness of flat-face blind flanges and permits the use of various design stress limits and line pressures, in accordance with ASME Boiler and Pressure Vessel Code.

**Price:** \$75**Contact:** J. Bill Wallace  
(714) 848-4405

**COMPUTAPIPE**  
17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### **BONDJT**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, allows the user to design the number, size, and type of bonding jumpers to electrically bond pipe sections together for electrical continuity. Electrical resistance is directly proportional to the length of the conductor and is inversely proportional to the area in the cross-section. The jumper conductor should normally be designed so that the resistance in the jumper will not exceed 50% of the adjacent pipe cylinder (exclusive of any reinforcing rods). The program generates a range of values from 10% to 50%.

The program allows the user to quickly try different pipe lengths and types of jumpers, such as steel and copper.

**Price:** \$75

**Contact:** J. Bill Wallace  
(714) 848-4405

**COMPUTAPIPE**  
17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### **BOUSQ (Boussinesq)**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This system, written in FORTRAN, determines live loads, based on Newmark's integration of Boussinesq's equation. The program was developed to analyze railroad loadings for area requirements. Tracks can be single, double, or multiple. In addition, reactions due to superimposed loads, either live or static, acting on one or more equal rectangular areas, can be evaluated.

**Price:** \$100

**Contact:** J. Bill Wallace  
(714) 848-4405

**COMPUTAPIPE**  
17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### **BOXCUL (Box Culvert)**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.



This program, written in FORTRAN, is for the structural design of rectangular box culverts with or without haunches. The effects of the haunches, earthloads, highway loadings, railroad loadings, culvert weight, water weight, and internal hydrostatic pressure can all be evaluated either individually or in combination.

Moments, thrusts and shears, and required steel areas, based on ultimate-strength design, are computed for 128 points about the periphery of the box. Output can be for all 128 points or for only the controlling or critical points and includes the points of contraflexure.

Program constraints can be reviewed and altered. The top, bottom, and side slabs can be of different thicknesses.

Once the culvert dimensions are entered, the depths of cover can be varied without having to reenter the culvert dimensions. That facilitates the preparation of design tables.

**Price:** \$250

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

### **BRG (Bearing Life Calculations)**

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • CAD/CAM • Calculation aids • Manufacturing  
• Mechanical engineering

Memory required: 64K minimum.

This program, written in MACRO, calculates bearing life versus load for ball, roller, and tapered roller bearings. The four variables are bearing life in B-10 hours, radial load on the bearing, bearing catalog rating, and bearing r/min. When any three of the four variables are supplied, the fourth variable is then calculated. The formulas used in this program are recommended by the American Bearing Manufacturers Association.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000

**Contact:** Dean Lampman

(513) 874-4499

STARFLO ENGINEERING

4740 A Interstate Drive

Cincinnati, OH 45246

### **C300**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, is for the design of reinforced concrete pressure pipe, steel cylinder type, that conforms to AWWA standard C300. Olander's bedding is used to determine moments and thrusts arising from water weight, pipe weight, and live loads. Special load coefficients can be entered if the designer chooses not to use Olander's bedding.

Design calculations are based on the ultimate-strength method of analysis. Program constants and controls can be reviewed and overridden.

**Price:** \$150

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### C301A

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Calculation aids • Civil engineering  
• Flow analysis • Structural engineering

Memory required: 256K.

The design curves in this program are based on the results of the final stress in the core ( $F_{cr}$ ). The design curves must be customized to each user's statistical test data for proper results. This program, written in FORTRAN, has two options:

- The first option allows the user to analyze assumed data. Wire sizes and areas are entered, as well as required D-loads, live loads, and internal pressure. This program then computes pipe weight, negative buoyancy, dynamometer value, wire limits, decompression, bursting pressure, 3-edge incipient crack, 3-edge transient and design limits, and so forth.
- The second option allows the user to compute wire areas, and so forth, based on required loads and pressures. Output is similar to that in the first option.

**Price:** \$150

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### C301B

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.



C301B, written in FORTRAN, is a design of AWWA C301 prestressed concrete pipe, steel cylinder type. The program tries various concrete strengths before incrementing wire sizes and then tries incrementing the wire size and number of wraps before attempting to increment the core thickness. Program options allow the use of specific wire sizes, wire class, concrete strengths, and core thicknesses. Options to select various Olander and Paris bedding coefficients for moment and thrust calculations are also included. In the case of Olander, the program computes the required coefficients for any bedding angle between 0 and 180 degrees. The output report includes values for easy plotting of graphs, decompression values, wrapping stresses, and so forth.

Three types of prestressed pipe can be designed:

- **Embedded cylinder design:** The wire area, tension, and spacing under which the wire is wound on the core are computed so that the specific combination of design pressure and external load will fall on or under the design curve.
- **Lined cylinder design:** This pipe is sometimes referred to as SP-5. In this case, the wire area, tension, and spacing under which the wire is wound are computed so that the specific combination of design pressure and external load will fall on or under the design curve.
- **Noncylinder pipe design:** This option is similar to the first, except that no cylinder can be considered as far as compression in the core is concerned.

**Price:** \$200

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## C302

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, is for the design of reinforced concrete pressure pipe, noncylinder type, that conforms to AWWA standard C302. Olander's bedding is used to determine moments and thrusts arising from water weight, pipe weight, soil weight, and live loads. Special load coefficients can be entered if the designer chooses not to use Olander's bedding.

Design calculations are based on the ultimate-strength method of analysis. Program constants and controls can be reviewed and overridden.

**Price:** \$150

**Contact:** J. Bill Wallace

(714) 848-4405

**COMPUTAPIPE**

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

**C303**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Modeling/simulation  
• Structural engineering

Memory required: 256K.

C303, written in FORTRAN, is a design of AWWA C303 reinforced concrete water pipe, pretensioned steel cylinder type, and offers three options:

- The first option computes steel areas for cylinder and rod, rod spacing, number of coils in a lineal foot, and circumferential stress at operating pressure. If areas are modified to conform to C303 limits, the program computes the maximum allowable pressure, based on 16500 PSI, or 50% of yield, whichever is controlling. The maximum transient pressure is also computed, based on 75% of yield. Bell gages, pipe od, and weights are also computed.
- The second option allows users to analyze an existing design. Default items permit easy entry of such items as lining and coating thicknesses, steel-to-concrete ratio, Spangler constants, and so forth. The program then computes the average circumferential stress in steel at operating pressure, the maximum pressure allowed at maximum stress, the maximum transient pressure allowed at 75% of yield, and the maximum external load permissible within the C303 limit of D2/4000.
- The third option computes external earth loads for various heights of cover and E' values that are permissible on AWWA C303 reinforced concrete water pipe, pretensioned steel cylinder type, and permits users to select various soil coefficients and weights, as well as Spangler bedding coefficients.

**Price:** \$150

**Contact:** J. Bill Wallace  
(714) 848-4405

**COMPUTAPIPE**

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

**CADBIRD II**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Graphics • Mechanical engineering

CADBIRD II is an extremely versatile 2-D drafting and engineering design package that fully utilizes the facilities offered by the RSX-11M operating system. The package meets the requirement of mechanical-drawing offices and, with its ease of operation, enables users to quickly exploit its powerful features to speed up the production of drawings and designs.



Suitable graphics stations and plotters are required to use the system's full capability. The standard system comprises a PDP-11/73+ computer, a Westward terminal, and a Benson A0 plotter.

**Price:** Available upon request

**Contact:** A. Murrell

091 2650451

INTERNATIONAL RESEARCH & DEVELOPMENT  
COMPANY, LTD.

Fossway

Newcastle upon Tyne NE6 2YD England

### **CAPS — Section Properties Program**

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Graphics  
• Mechanical engineering

**Memory required:** 19K.

CAPS calculates properties of an arbitrary cross-section and handles both open and closed sections. The program calculates area, moment of inertia, centroid, torsional resistance, and other section properties and can be used either with or without a digitizing tablet for data input. Output consists of a graphic plot of the section and calculated section property data or a formatted output file to be used as input to other programs, such as FEA. Various options permit plotting thickness as well as scaling and labeling of sections.

CAPS is written in FORTRAN and uses PLOT10 graphics protocol. CAPS can be distributed over phone line, disk, or tape. Yearly maintenance, support, and updates are available for \$600.

A version of this product is available for VAX computers.

**Price:** \$4800

**Contact:** Pat Glance

(313) 455-2340

CONCEPT ANALYSIS CORP.

9145 General Court

Plymouth, MI 48170

### **CBUMP — Automotive Bumper Dynamic Impact**

**PDP-11 Operating System:** RSTS

**Keywords:** • Automotive • Calculation aids  
• Structural engineering

**Memory required:** 15K.

CBUMP, a program for calculating the phenomenon of impact for automotive bumper systems, is a tool to initially size bumpers and predict the optimum energy absorber device. The system can work for a variety of bumper shapes and predicts such information as peak force, deflection, absorber, damping coefficient, and both normal and shear stress in the bumper beam. The program automatically calculates

information for various "hit" locations and can handle any velocity of impact. CBUMP includes solutions for PGM, Delco, or EVA Egg Crate absorbers; graphics output; and can be run interactively.

CBUMP is written in FORTRAN and uses PLOT10 graphics protocol. The program can be distributed without a source code over phone line, disk, or tape. Yearly maintenance, support, and updates are available for \$1800.

A version of this product is available for VAX computers.

**Price:** \$20,000

**Contact:** Pat Glance

(313) 455-2340

CONCEPT ANALYSIS CORP.

9145 General Court

Plymouth, MI 48170

### **CDIG — Graphics Digitizing Program**

**PDP-11 Operating System:** RSTS

**Keywords:** • CAD/CAM • Device drivers/handlers • Graphics

Memory required: 19K.

CDIG, a graphics driver used to digitize grid points and output the data in finite element format, permits digitizing in two views and merges the data in a 3-dimensional format. CDIG is used in conjunction with our CMODEL, CAPS, and CPLOT programs.

CDIG is written in FORTRAN and uses PLOT10 graphics protocol. Yearly maintenance, support, and updates are available for \$200. CDIG can be distributed without a source code over phone line, disk, or tape.

A version of this product is available for VAX computers.

**Price:** \$2600 — \$5400

**Contact:** Pat Glance

(313) 455-2340

CONCEPT ANALYSIS CORP.

9145 General Court

Plymouth, MI 48170

### **Cephes Math Function Library**

**PDP-11 Operating System:** RSX

**Keywords:** • Development tools • Language enhancers  
• Mathematics • Scientific

The Cephes double-precision math function library offers more than 80 accurate mathematical function subroutines in C source code for scientific and engineering applications. In addition to the elementary transcendental functions, the library includes 10 Bessel functions, 9 probability integrals, and several special functions.



Most of the routines use least maximum error polynomial or rational function approximants, which are theoretically more accurate than the machine arithmetic. Thus, accuracy is influenced only by arithmetic roundoff and cancellation. Several analytical equivalent approximations were tested for each elementary function. In some cases, such as the exponential function, cancellation error has been reduced by unusual range-reduction techniques.

Each function has been tested by comparing many points against high-precision check routines that use 144-bit floating-point arithmetic. Test results are given with the description of each routine.

In the proliferation of language compilers offered by third-party software companies, mathematical function routines often receive inadequate design and testing attention. Such problems have been anticipated in this package, resulting in a high degree of portability.

The double-precision library subroutines are written entirely in C language. Only the basic integer and floating-point arithmetic operations and a means of printing error messages are assumed to be available in the host system. The collection of high-precision check routines, available separately, uses some assembly language.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Joel Schacht

(617) 491-4180

OASYS

60 Aberdeen Avenue

Cambridge, MA 02138

## Chanel

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Flow analysis • Geoscience  
• Structural engineering

**Memory required:** 256K.

This system, written in FORTRAN, analyzes flow channels of irregular shape, such as a river with levees. Profile entry is accomplished by the use of coordinates. Variations in depth can be accomplished either by revising the end coordinates or by adding new end coordinates. Because the roughness and depth may vary widely over parts of such a channel, the capability of breaking the channel up into separate elements has been included. The division of a channel into sections is strictly a matter of judgment on the part of the user.

The printout includes flow velocity, cross-sectional area, and wetted perimeter.

**Price:** \$75

**Contact:** J. Bill Wallace

(714) 848-4405

### COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### Circuits

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Electronic • Signal processing

Memory required: 64K bytes.

Circuits is a program package with three circuit analysis programs: DCIRC for DC analysis, ACIRC for sinusoidal AC analysis, and TCIRC for arbitrary waveform AC analysis. The program is intended for the electronic engineer or technician with a PDP-11 or LSI-11 computer. The program capacity is 40 nodes for DCIRC and 25 nodes for ACIRC and TCIRC.

**Price:** \$150

**Contact:** Bill Jones

(805) 644-8502

FB CIRCUIT PRODUCTS INC.

4984 Teton Lane

Ventura, CA 93003

### Civil Library

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • CAD/CAM • Civil engineering • Graphics  
• Mapping

This package of interactive programs for the civil engineer, land surveyor, or structural engineer includes a powerful set of graphics programs interfaced to several popular plotters.

The library's main strengths are surveying, mapping, and subdivision design and drafting. Programs were developed and are supported by registered engineers, who stressed simple operation and extensive documentation. Operating manuals use an "example and sketch" instructional technique, ensuring that the engineer or designer will become fully productive in a short time.

Some applications are:

- Traverse geometry: unknowns anywhere, rotation and translation, shape duplicator, fixed-area solutions, map checking, radial and off-set stakeouts, and field traverse reduction and adjustment
- Subdivision plotting: full annotation, automatic windowing, automatic parallel-line generation for sidewalks and gutters on improvement and grading plans, and plot preview on graphics display terminals
- Topo reductions: five types, topo traversing, and topo plotting
- Vertical and horizontal stakeout: construction staking with stationing
- Earthwork: site or highway, automatic terrain interpolation and balancing, error control, and section plotting



- Geographical positions: state plane to geographical and vice versa
- Hydraulics: network analysis and backwater curves
- Structural: indeterminate frame, truss, and continuous beams

Approximately 100 engineering users currently dial into CONCAP's computer center or use the library on their own in-house minicomputer/plotter system. The library is also very popular with city and county public works departments.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$30,000

**Contact:** Ron Sawyer

(415) 635-5750

CONCAP COMPUTING SYSTEMS

Civil Engineering Group

Sixty 98th Avenue

Oakland, CA 94603

### **CLENS — Automotive Head Lamp Design Code**

**PDP-11 Operating System:** RSTS

**Keywords:** • Automotive • Electrical • Graphics

Memory required: 15K.

CLENS is a code written to predict automotive head lamp optical performance, including light path and light intensity over the total lamp surface and projection field. The program was developed for the design analysis of aerodynamic plastic head lamps. Any 3-dimensional surface lens and reflector can be represented.

CLENS is written in FORTRAN and uses PLOT10 graphics protocol. Yearly maintenance, support, and updates are available for \$600. CLENS can be distributed without a source code over phone line, disk, or tape.

A version of this product is available for VAX computers.

**Price:** \$17,000

**Contact:** Pat Glance

(313) 455-2340

CONCEPT ANALYSIS CORP.

9145 General Court

Plymouth, MI 48170

### **Clientrac™**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Information management • Management  
• Sales analysis

This fully integrated software package manages the business development functions of the architectural or engineering firm. Clientrac uses

data bases containing historical data on the firm, its clients and prospective clients, and past projects and proposals. The system uses that data to:

- Generate proposals, using either the SF 255 format or a general format that can be customized
- Produce summaries of fees and projects for completion of SF 254 over user-definable periods
- Develop project examples by Profile Code for SF 254 preparation
- Allow analysis of the business development effort by determining the proposal success rate by project type or by client type
- Determine the firm's historical record of success in procuring work by client type and project type
- Allow analysis of project profitability by project type and client type
- Generate periodic status reports of outstanding proposals
- Maintain mailing lists and print labels for announcements, newsletters, direct mail campaigns, and more
- Maintain records on competitors, with an analysis of strengths and deficiencies
- Select project experience records for proposal preparation
- Analyze success rate in obtaining work from a particular client or client type
- Produce tickler files for calls due on prospective clients during a definable period
- Analyze a competitor's success rate for a particular client or client type
- Evaluate the firm's record in obtaining work or shortlisting in comparison to a particular competitor

Clientrac handles branch office or subsidiary reporting and can be easily modified to customize reports or input formats.

A version of this product is available for VAX computers.

**Price:** \$1750 - \$4000

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

## **CMODEL — Finite Element Model Builder**

**PDP-11 Operating System:** RSTS

**Keywords:** • Device drivers/handlers • Mapping  
• Pre- and postprocessors • Structural engineering

**Memory required:** 44K.

The CMODEL system includes our CDIG and CPLOT programs, as well as a weight generator. CMODEL is the recommended preprocessor for the Concept program.

CMODEL is written in FORTRAN and uses PLOT10 graphics protocol. Yearly maintenance, support, and updates are available for \$1000.



The software can be distributed over phone line, disk, or tape without a source code.

A version of this product is available for VAX computers.

**Price:** \$6200

**Contact:** Pat Glance

(313) 455-2340

CONCEPT ANALYSIS CORP.

9145 General Court

Plymouth, MI 48170

## **COGO (Coordinate Geometry)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Civil engineering • Mapping • Mathematics

COGO solves problems in plane coordinate geometry, starting from known points and progressing through a series of simple COGO commands. COGO commands input and determine points, lines, areas, tangents, and circular and spiral horizontal curves. The COGO commands are logical and similar to solving the problem by hand.

Major applications for COGO include land surveying, highway design, right-of-way surveys, bridge geometry, and subdivision work. Traverse adjustment commands also are included.

In practical problems, a user is not dealing simply with points but rather with groups of points that define property boundaries, streets, right of ways, traverses, and so on. COGO allows the user to define and to refer to lists or figures of related points. Up to 9999 figures can be defined and referred to by number to compute intersections, parallel figures, areas, and so on. Operating on a group of points by specifying a figure number reduces the effort required to do a job. The coordinates and figures are stored by the computer in a COGO table. The computer saves that table so that the user can refer to the points and figures in future runs. Each table has a variable length up to 32,000 points. A maximum of 32,000 tables can be saved. People working on several jobs can use separate COGO tables.

COGO can be run in either interactive or batch mode. COGO offers a flexible input format consisting of commands and comments. A comment can be on a COGO input record, by itself, or after the last data of any COGO command. A COGO command, which can be abbreviated, is made up of a command name and perhaps some data. Distances, angles, azimuths, and bearings can be typed in as the sum or difference of several terms. Since the input is in free format, the command names or their abbreviations and the data do not need to be in certain columns of an input record.

Error messages are printed near the left margin of terminal output for speed of printing but end in column 72 of line printer output for ease of reading. Vertical alignment is not available.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$3000

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

### **Computer Guided Probe — Electronic Fault Isolation Package**

**PDP-11 Operating System:** RSX, RT-11, ULTRIX-11

**Keywords:** • Diagnostics • Electronic • Instrumentation

SofTest Inc. has developed the core of a digital guided probe algorithm for automatic test equipment (ATE). The core integrates with existing ATE operating software through modularizing ATE/probe interfaces and through implementing a high-level programming language.

The guided probe diagnoses the failure of a unit under test (UUT). The guided probe works through interaction, asking the test system operator to place a probe or an IC clip on a given point on the UUT. The guided probe software analyzes the data from the probed points. Once the failure has been located, the operator is informed of the location of the failure in both hard and soft copy. The probe handles the difficult situations of wired nodes, large bus nodes, and complex feedback loops.

The guided probe requires information about the circuit interconnects and IC reference data. The circuit interconnect is a list of all UUT components and a list of all interconnections between those components. The IC reference data consists of the logic value (zero, one, or tristate) that should occur at every node for each step in the test program. Signature data may also be used.

The probe package contains software to create the data bases for the circuit description and "learned" nodal data. The circuit description is entered in an English-like language; nodal data is learned by a program that prompts the operator. However, a digital logic simulator can generate those data bases, and the probe can be interfaced to them.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David Schneider

(201) 447-3901

SOFTEST

555 Goffle Road

Ridgewood, NJ 07450

### **CONEFR.BAS (Cone Frustum Layout)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data collection • Scientific

Memory required: 16K minimum.



This program is for obtaining all the data needed to lay out any size cone frustum having a common center line through the large and small diameters. The data the program requires is self-explanatory: the material thickness, diameters, vertical height, slant height, or the angle off the vertical center line of the side. The program needs only three of those factors.

You can also supply the number of segments you wish to make or the size material you wish to use. Using the size option, the program will give you the number of segments needed.

The data will be shown on the CRT; if required, a hard copy of the data can be produced on the line printer. DECUS number 11-707.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Cones**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This system, written in FORTRAN, develops layout patterns in the flat for both concentric and eccentric cones. Concentric cones can be laid out by radii or offsets, whereas eccentric cones can be laid out by offsets only. Shops using these patterns should provide their own allowances by breakage.

**Price:** \$125

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### **COORD**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, enables a user to input coordinates. The program then computes the distance in feet between coordinates, as well as the deflection angle.

**Price:** \$75

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

## **COSAP™ (Con conversationally Oriented Statistical Analysis Package)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Mathematics • Statistics

COSAP Version 2B is written in BASIC-PLUS for use on PDP-11 computers in an 8-9K word user area under Version 8.0 of RSTS/E. Statistical analyses include marginal frequency, student's *t* test, chi square test, rank correlation, cross-tabulation (up to 8-way in a single command), first-order Pearsonian product-moment correlation, simple and multiple regression (up to 40 right-hand-side variables), breakdown, histogram, scattergram, factor analysis, analysis of variance, discriminant analysis, and probit analysis.

COSAP provides a coherent and versatile statistical package featuring convenient terminal data entry, flexible commands for editing or transforming data, a powerful select mode, a uniform data format, a conversational environment, and ample capacity (up to 32,767 observations on up to 4095 double-precision variables or 8191 single-precision variables).

The licensed package consists of source code for all modules, internal table files, test data files, and source code for BUILD, a powerful Lawrence program that is used for installation and that has many other uses. Printed documentation includes detailed instructions for installation, codebooks for test data files, and the comprehensive *User's Guide to COSAP*.

**Price:** \$1000 - \$5000

**Contact:** Dr. James S. Evans, Director of Computer Services  
(414) 735-6571

COMPUTER CENTER PUBLICATIONS  
Lawrence University, Box 599  
Appleton, WI 54912

## **CPLOT — Graphics Plotter Program**

**PDP-11 Operating System:** RSTS

**Keywords:** • CAD/CAM • Graphics • Mapping  
• Structural engineering

Memory required: 25K.

This program uses formatted finite element data for the plotting of elements. CPLOT plots typical FEA elements, such as quadrilateral, triangular, beam, and solid. CPLOT allows 3-dimensional views at any rotational angle, has a shrink capability, and features both an automatic node and an element generator. A mesh generator is also available, and a node and element labeler is featured. CPLOT and CDIG are packaged together under CMODEL to create an excellent preprocessing FEA model-building system for finite element structural analysis. Default output format is NASTRAN. A reformatting program option places data in the Concept format. Conversion formats for other FEA programs are available.



CPLOT is written in FORTRAN and uses PLOT10 graphics protocol. Yearly maintenance, support, and updates are available for \$400. CPLOT can be distributed without a source code over phone line, disk, or tape.

A version of this product is available for VAX computers.

**Price:** \$3600 – \$5000

**Contact:** Pat Glance

(313) 455-2340

CONCEPT ANALYSIS CORP.

9145 General Court

Plymouth, MI 48170

### **CPOST — Postplotter for Finite Element Output**

**PDP-11 Operating System:** RSTS

**Keywords:** • Mapping • Pre- and postprocessors  
• Structural engineering

Memory required: 40K.

CPOST, the postprocessing plotter for Concept, plots contour deflections and stresses. Deflections in the X, Y, and Z direction can be plotted as well as total magnitudes (vectors). Shear stress and Von Mises stress contours can be plotted from any user-defined viewing angle and for any complete or subset of the model. Plotted stresses and deflections can also be zoomed (blown-up, enlarged) for a section of the model. Concept permits "restarts" so that additional information can be plotted on CPOST without rerunning the complete analysis. CPOST features an outline plotter as well as an option for dotted-line plot of all elements over stress or deflection contours.

CPOST is written in FORTRAN and uses PLOT10 graphics protocol. Yearly maintenance, support, and updates are available for \$400. The plotter can be distributed without a source code over phone line, disk, or tape.

A version of this product is available for VAX computers.

**Price:** \$4400

**Contact:** Pat Glance

(313) 455-2340

CONCEPT ANALYSIS CORP.

9145 General Court

Plymouth, MI 48170

### **CRPLT**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Calculation aids • Civil engineering  
• Structural engineering

Memory required: 256K.

This program, written in FORTRAN, is a design of crotch plates, based on AWWA M11, Sec. 19, Nomograph Method, with reference also to a

reprint from the *Journal AWWA*, Vol. 47, No. 6, June 1955, "Design of Wye Branches for Steel Pipe." This program computes the size of required plates for various thicknesses, finished plate weight, and waste values.

**Price:** \$150

**Contact:** J. Bill Wallace  
(714) 848-4405  
COMPUTAPIPE  
17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### **CSEAT — Seat Frame Analysis Code**

**PDP-11 Operating System:** RSTS

**Keywords:** • Automotive • Calculation aids • Graphics  
• Structural engineering

Memory required: 16K.

CSEAT is a structural analysis program using closed-form solutions to predict the performance of seat structures. The program calculates stress and deflection for a bucket seat, a bench, a seat, or a single- or double-sided latching seat. The program is useful for both automotive and commercial furniture applications. CSEAT features a graphic plot of a force-deflection curve that predicts nonlinear material behavior.

CSEAT is written in FORTRAN and uses PLOT10 graphics protocol. Yearly maintenance, support, and updates are available for \$1200. CSEAT can be distributed without a source code over phone line, disk, or tape.

A version of this product is available for VAX computers.

**Price:** \$6000

**Contact:** Pat Glance  
(313) 455-2340  
CONCEPT ANALYSIS CORP.  
9145 General Court  
Plymouth, MI 48170

### **CSM/O/P (Continuous System Modeling and Optimizing Program)**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Electronic • Modeling/simulation

Designed for on-line interactive, transient/AC simulation of continuous systems and processes, this program uses a simple yet versatile application-oriented input language to simulate and evaluate those systems expressed by either an analog block diagram or a set of ordinary differential equations. Program features include a conversational, discipline-oriented input language; several optional integration methods; expanded-element block and function capabilities; graphics output and selective output control; unique AC analysis, frequency, and phase response plots; on-line file handling and editing;



response optimization of linearized systems by parameter iteration under program control; and printout of the "A" matrix and eigenvalues.

The user describes a problem by entering block parameter and inter-connection data. Thirty-five block types are available. Realistic system simulations can be obtained by including blocks that simulate noise, backlash, flip-flop, and so forth. Up to six transient response plots can be stored on disk files and retrieved for later use.

Frequency response optimization of a linearized system can be achieved. CSM/O/P allows the user to change the values of the system parameters under program control in order to realize a response closer to the response desired. Optimization is accomplished by varying only the user-selected parameters to maximize a merit function.

A spiral least-squares algorithm minimizes the difference between the desired frequency response and the system's response over a specified frequency interval.

**Note:** This program requires floating-point hardware and FORTRAN-77.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Carol Kunz, Director of Marketing  
(505) 266-9622

BERNE ELECTRONICS, INC.  
120 Dartmouth, S.E.  
Albuquerque, NM 87106

### **DAREP (Differential Analyzer Replacement — Portable), DARE/11**

**PDP-11 Operating System:** None required, RSX, RT-11

**Keywords:** • Electrical • Mechanical engineering  
• Modeling/simulation • Scientific

This FORTRAN-based simulation language is for dynamical system simulation — for example, the solution of large groups of differential equations. Line printer and Tektronix plotting routines are available for solution display. Eleven numerical integration routines are available — some with automatic step-size adjustment and error control. Programming is scale-factor free.

Mass storage of problem and solution files is included. Use of a VDU makes possible semiinteractive simulation with run-time alteration of parameters.

DARE/11 runs interactively on PDP-11s with VT-11 graphics and is an RT-11 V2C implementation. For more information, see *Digital Continuous System Simulation*, G. A. Korn and J. V. Wait, Prentice-Hall.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$3800

**Contact:** John V. Wait, Professor  
(602) 621-2434

UNIVERSITY OF ARIZONA

Dept. of Electrical and Computer Engineering  
Tucson, AZ 85721

### **DESKTOP (Direct Executing Scientific Computation and Operating Package)**

**PDP-11 Operating System:** RT-11

**PRO Operating System:** RT-11

**Keywords:** • Modeling/simulation • Research • Scientific  
• Signal processing

DESKTOP, a programming system for scientific/engineering workstations, is especially suitable for interactive simulation of dynamic systems. DESKTOP executes immediately on a typed RUN command, without any external compiler or linker. Nonlinear differential equations are solved at about FORTRAN-77 speed, enabling the user to see results of model changes at once. The system directly executes complex-variable, matrix, and vector calculations; includes fast Fourier transform routines; has structured-programming statements (for, while, repeat, if/else, and exit) with automatic pretty-printing; and has value and VAR parameters for procedures.

DESKTOP's complete programming environment includes the DCL command language as a subset, permitting control of a MicroVAX or a PDP-11 workstation. The edit command uses a full-screen editor, usually EDT; small jobs can also be entered with automatically supplied line numbers. DESKTOP's engineering-notebook file records users' comments and identification codes for program and data files. The system displays 100-by-80 graphs on unmodified VT100 alphanumeric terminals and 450-by-350 color graphics on Tektronix 4105/7 graphics terminals.

A simple interpreted job-control language serves for interactive program entry, file manipulation, and programming multirun simulation studies. The "dynamic" program segment containing differential or difference equations is entered just like the job-control language and accesses the same named variables. An efficient, extra-fast minicompiler translates the "dynamic" segment practically instantaneously at run time. Different precompiled integration routines can be switched while the program runs.

DESKTOP can solve up to twentieth-order differential equation systems on a PDP-11 and 100 or more (compilation option) on a VAX or MicroVAX.

A version of this product is available for VAX computers.

**Price:** \$360 - \$3600

**Contact:** G. A. Korn  
(602) 298-7054



G. A. AND T. M. KORN, INDUSTRIAL CONSULTANTS  
6801 Opatas Street  
Tucson, AZ 85715

### **Design Graphix™**

**PDP-11 Operating System:** Micro/RSX, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** P/OS

**Keywords:** • CAD/CAM • Graphics

This powerful, user-friendly, flexible, low-cost computer-aided design/drafting package is easy to learn and use. Design Graphix software packages offer a true 3-dimensional data base, multiple-pen and multiple-layer drawing construction, complete geometrics, user-definable symbols and figures, graphics and text editing, numerous text fonts, automatic dimensioning, and bill of materials. The software also features user-definable menus, command file processing, a macro programming facility, and utilities.

In order to minimize the user training cycle and maximize user friendliness and productivity, Design Graphix provides extensive help and automatic training facilities. Operator interaction can be command driven, menu driven, or autoprompting mode. In prompting mode, current parameter values are displayed and may be updated at the operator's discretion. Parameter-value retention and command repeatability also simplify operation.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$2995 - \$15,000

**Contact:** Larry McCoy

(504) 769-2226

ENGINEERING SYSTEMS CORP.

3636 South Sherwood Forest Boulevard, Suite 400

P.O. Box 80318

Baton Rouge, LA 70816

### **DESIRE (Direct-Executing Simulation in Real Time)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Aeronautics/aerospace • Chemical

• Modeling/simulation

DESIRE is a new floating-point equation-language system for interactive dynamic-system simulation. EARLY DESIRE runs up to five times faster than threaded FORTRAN and executes immediately on a RUN command, without any external compiler or linker. An experimenter thus obtains results of model changes at once, an unprecedented convenience in interactive simulation.

An interpreted job-control language serves for interactive program entry, editing, file manipulation, and programming multirun simulation studies. The "dynamic" program segment containing differential

equations in first-order form is entered just like the job-control statements and accesses the same named variables. An efficient, extra-fast minicompiler translates the "dynamic" segment practically instantaneously. Different precompiled integration routines can be overlaid from mass storage while the program runs.

EARLY DESIRE runs on any 28K-word PDP-11 or LSI-11 processor with FIS or FPU instructions under RT-11 and is configured for up to 40 state variables. EARLY DESIRE provides a true CRT screen editor with cursor-control and number-pad keys and produces run-time graphics even on VT52-type alphanumeric terminals, as well as on VT-11-type displays.

**Price:** \$1600 - \$2400

**Contact:** G. A. Korn

(602) 298-7054

G. A. AND T. M. KORN, INDUSTRIAL CONSULTANTS

6801 E. Opatas Street

Tucson, AZ 85715

## DLOAD

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This system, written in FORTRAN, computes steel areas for the D-load type of pipe, for the elliptical cage, and for the double circular and inner circular with outer elliptical cage. Another part of the system deals with the pipe designs for various classes and allows the user to enter standard types of designs, including concrete mixes, amount of steel, bell and spigot ring sizes and weights, lengths of pipe sections, production footage, fuel costs for curing, and so forth.

Reports are easily printed on demand for individual analysis or are printed for standard costs on all product lines when updates are necessary.

**Price:** \$75

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## ECAP

**PDP-11 Operating System:** RT-11

**Keywords:** • Electrical

Memory required: 16K minimum.

ECAP is a useful tool for analyzing and designing inductor, capacitor, and resistor networks of 25 or fewer branches and 10 or fewer nodes. The basic electrical element is the branch, which must include, at



most, one passive element, which may be a resistor, a capacitor, or an inductor. This branch may also include a current source, a voltage source, or a transconductor (a voltage-controlled current source). As all the operator inputs are position-free, the program is still very useful to the electrical engineer who is a novice at computer programming. DECUS number 11-126.

Restrictions: OTS complex divider \$DVC error.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **ELAN-AC**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Electrical • Modeling/simulation

This interactive AC analysis program is for circuit designers who need a comprehensive analysis tool. ELAN-AC can analyze large circuits and provide information about circuit performance, including gain, phase shift, input and output impedances, y-parameters, and group delay.

ELAN-AC features include 100-node, 300-branch capability; built-in models for resistors, capacitors, inductors, mutual couplings, independent and dependent generators, transistors, FETs, and OP-amps; user-defined FORTRAN equations for complex modeling and other special calculations; sensitivity, worst-case, and Monte Carlo analyses and simulations, with histogram plots; and coupled tolerances and distributions between elements for realistic simulations of element variations.

ELAN-AC can automatically linearize operating-point parameters from previous ELAN-TR or ELAN-REL program analysis. Data from operating points is automatically obtained from previous analyses and inserted as data to ELAN-AC.

A semiconductor data library (ELAN-LIB) and an interactive program for calculating diode and transistor parameters (ELAN-MOD) are available.

**Note:** This program requires floating-point hardware and FORTRAN-77.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Carol Kunz, Director of Marketing  
(505) 266-9622

BERNE ELECTRONICS, INC.

120 Dartmouth, S.E.

Albuquerque, NM 87106

### **ELAN-MOD (Transistor and Diode Modeling Program)**

**PDP-11 Operating System:** RSX

**Keywords:** • Electrical • Modeling/simulation

This interactive program calculates diode and transistor parameters for ELAN programs. The user enters data from measurements or from a manufacturer's data sheets. ELAN-MOD uses default values when the user does not have appropriate parameter data. ELAN-MOD then calculates the parameters required for ELAN. The user can check, modify, and recalculate parameters until suitable model data is obtained.

**Note:** This program requires floating-point hardware and FORTRAN-77.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Carol Kunz, Director of Marketing  
(505) 266-9622

BERNE ELECTRONICS, INC.  
120 Dartmouth, S.E.  
Albuquerque, NM 87106

### **ELAN-TR (Transient Radiation)**

**PDP-11 Operating System:** RSX

**Keywords:** • Electrical • Graphics • Modeling/simulation  
• Nuclear

This easy-to-learn but powerful nonlinear analysis program is designed for both the beginner and the experienced user. ELAN-TR features easy-to-use input language and prompts; complete nuclear radiation effects analysis; high-resolution graphics output presentations; a large semiconductor data bank containing approximately 300 devices; linear transconductance models for Beta, Mu, Gm, and Zm; automatic storage and retrieval of problem data from disk files; user-defined FORTRAN equations for additional modeling flexibility; support for users by experienced engineers and computer specialists; interface for further circuit and reliability analysis, using the ELAN-AC and ELAN-REL programs; availability of a semiconductor data library (ELAN-LIB) and an interactive program for calculating diode and transistor parameters (ELAN-MOD); and additional FORTRAN equations to increase the possible range of analyses.

**Note:** This program requires floating-point hardware and FORTRAN-77.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Carol Kunz, Director of Marketing  
(505) 266-9622



BERNE ELECTRONICS, INC.  
120 Dartmouth, S.E.  
Albuquerque, NM 87106

## Elbow

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, allows users to design and compute fabrication dimensions for mitered elbows. The program computes the combined angle if the horizontal and slope angles for each leg are entered. Any elbow can be designed by entering any angle for the horizontal and setting the slopes to zero. Field top rotations for elbow ends, check dimensions, and shipping dimensions are also generated.

**Price:** \$100

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

## European MINC Package #7 — Instruments

**PDP-11 Operating System:** RT-11

**Keywords:** • Graphics • Instrumentation • Mapping  
• Scientific

The following is a brief description of the programs:

- TRANEV/EXFIEV — Processor of data collected from Rockland FFT 512/S spectrum analyzer
  - ANALOG to PLOG, TEXPLO, and ACHS — Collection of programs to use HP-7225 plotter, by means of IEEE interface
  - INFARED spectroscopy application program; acquire data from a Perkin Elmer 225; draw the spectrum on a VT105 plot on chart recorder
  - MCIMS 1 — Enables MINC to transfer from a SOLATRON IMS-3510 master unit
  - VOLTS — Control of a power supply that does not contain IEEE interface, using an HP-3495A scanner
  - ACQR — Monitoring and control of a 3-phase machine
  - GR 1688 — Program support for measuring all components of GR-1688 manual: Digibridge GENRAD type GR 1688/IEEE
  - MINC — BASIC and FORTRAN IV support of the Tektronix 7612D digitizer
  - JOYCE-LOEBL — Disk centrifuge application program HP-7225A plotter (or similar)
  - GAMMA counters — Real-time on-line data acquisition program
  - RHODE and SCHWARZ NGPU — Power supply support package
- DECUS number 11-578.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **EXP1234 (Exponential Model Fitter)**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Biology • Mathematics • Modeling/simulation  
• Statistics

This interactive FORTRAN program sequentially provides weighted least-squares fits of time-series data to sums of one, two, three, and four exponential functions, with a tabular analysis of the quality of all fits, using several statistical criteria — residual tests, F-ratio tests, information criterion tests, and correlation matrices. Five options for entering measurement error variances are provided, with three choices for data weighting. The nonlinear regression algorithm is a second-order gradient search scheme. Program input and output are highly readable and user friendly. Telephone demos are available.

A version of this product is available for VAX computers.

**Price:** \$350 - \$750

**Contact:** Dr. Joseph J. DiStefano, Professor  
(213) 825-7482 or 825-4033

UNIVERSITY OF CALIFORNIA, LOS ANGELES  
School of Engineering and Applied Science  
Biocybernetics Laboratory, 4731K Boelter Hall  
Los Angeles, CA 90024

### **FLGTHK**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, computes the thickness of flat-face flanges and permits the use of various design stress limits and line pressures.

**Price:** \$75

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE  
17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### **FLIC**

**PDP-11 Operating System:** Micro/RSX, RSX

**Keywords:** • Chemical • Petroleum • Pharmaceutical  
• Process control

The modular FLIC system for process control and monitoring allows easy configuration for a variety of process applications and a wide range of inputs and outputs. FLIC is easy to use and includes a variety of preprogrammed process functions that the user can configure. A



simple fill-in-the-blanks feature compiles operating data on line to build or modify an engineering data base. Thus, data acquisition, conversion, alarm requirements, control loops, unique calculations, data logging, and reporting can be configured to a particular process or plant's requirements.

A complete, functioning system can be put on line without any need for the user to write and debug programs. If special programs are required, the user can easily add them. In order to simplify and support that process, FLIC provides a complete subroutine library allowing for interface to the engineering data base. The user can also write programs in FORTRAN to perform functions not preprogrammed in the FLIC software.

The FLIC control system contains a configurable set of programs to perform analog and digital data acquisition, alarm control, calculation, and data logging functions. FLIC functions include descriptors, names, and groups; analog and digital data acquisition, filtering, conversion, and validity check; calculation procedures; alarm scan and appropriate action; control algorithms; historical data acquisition; report generation; a display generator; security; TREND; and system enhancements, such as service to special analog/digital interfaces, multidiscipline functions, and analyzer service.

Process operator commands allow the operator to interact with the process: stopping and starting equipment, monitoring process measurements and status, activating and inactivating alarms, and changing control parameters. Automatic event and alarm logging alert the operator to changing plant conditions. All references to plant components, alarms, and measurements are made by names chosen by the user.

A version of this product is available for VAX computers.

**Price:** \$20,000 - \$40,000

**Contact:** Brian Grainger  
(408) 370-4334

QUADREX CORP.

1700 Dell Avenue

Campbell, CA 95008

## **FORSIM**

**PDP-11 Operating System:** IAS

**Keywords:** • Mathematics • Modeling/simulation  
• Process control

This versatile FORTRAN-based package automates the solution of coupled differential equation systems. The equations can be any mixture of partial and ordinary differential equations with time and up to three space coordinates as the independent variables. Partial differential equations are automatically converted into sets of coupled ordinary differential equations by variable-order discretization in the spatial dimensions. These and other ordinary differential equations are integrated continuously in time, using efficient variable-order,

variable-step, error-controlled algorithms. The mathematical routines are supplemented by flexible input/output facilities and a number of utility routines commonly used in simulation.

A version of this product is available for VAX computers.

**Price:** \$1495 - \$2995

**Contact:** H. W. Hinds

(613) 584-3311

ATOMIC ENERGY OF CANADA LTD.

Chalk River Nuclear Laboratories

Chalk River, Ontario K0J 1J0 Canada

### **FPS (Fundamental Plotting Subroutines)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • CAD/CAM • Device drivers/handlers • Graphics

ZETA plotter software, Release 5.3 and 5.4, is intended for use with ZETA intelligent plotters and controllers. Available for most major mainframes, the subroutines are readily convertible to any standard FORTRAN. BASIC versions are also available.

This set of fundamental routines is designed to achieve full compatibility with the basic industry standards, as well as to make full use of the features built into ZETA's intelligent controllers. The routines can be divided into two categories: industry-standard subroutines and ZETA's extended subroutines.

A version of this product is available for VAX computers.

**Price:** \$250

**Contact:** Bill Manos, Product Manager

(415) 372-7568

NICOLET COMPUTER GRAPHICS DIVISION

777 Arnold Drive, P.O. Box 3020

Martinez, CA 94553

### **Functional Subroutines**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • CAD/CAM • Device drivers/handlers • Graphics  
• Presentation aids

The Functional Subroutines package for ZETA plotter software is a set of FORTRAN subroutines compatible with ZETA's Fundamental Plotting Subroutines. The Functional Subroutines provide the capability of plotting frequently used patterns, such as arrowheads, dimension lines, shaded polygons, and bars, for business charts. Also included are routines for logarithmic scaling and axis notation.

A version of this product is available for VAX computers.

**Price:** \$250

**Contact:** Bill Manos, Product Manager

(415) 372-7568



**NICOLET COMPUTER GRAPHICS DIVISION**

777 Arnold Drive, P.O. Box 3020

Martinez, CA 94553

**Gasket****PDP-11 Operating System:** RSTS, RT-11**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, was developed for the design of ring gaskets used on USBR R2-type joints (Carnegie spigots) and USBR R4 concrete joints. The program also has an option to size the groove ring for R4-type joints.

**Price:** \$75**Contact:** J. Bill Wallace  
(714) 848-4405**COMPUTAPIPE**17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647**GEARW****PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11**Keywords:** • CAD/CAM • Manufacturing  
• Mechanical engineering • Metals

Memory required: 64K minimum.

This program, written in MACRO, calculates gear wear according to A.G.M.A. specification and provides a tabulated summary. GEARW provides an accelerated design process and quick calculations from user data input. For both the pinion and the gear, the user specifies the diameter, face width, Brinnell hardness number, material type (1 for steel, 2 for cast iron), pinion r/min, and stage number. The GEARW program applies to any process involving design and/or analysis of gear performance.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000**Contact:** Dean Lampman  
(513) 874-4499**STARFLO ENGINEERING**4740 A Interstate Drive  
Cincinnati, OH 45246**GPUC (General-Purpose User Command Package)****PDP-11 Operating System:** RSX**Keywords:** • Architecture • CAD/CAM • Development tools  
• Graphics

GPUC is an easy-to-learn menu-driven set of Intergraph-based general-purpose commands that address engineering and architecture

applications. Those macro instructions reduce the required key-ins for repetitive multistep commands. GPUC increases productivity by adding efficient, flexible alternatives to current IGDS methods.

A version of this product is available for VAX computers.

**Price:** \$1000

**Contact:** Debra P. Bressler  
(713) 266-0000

EGT, INC.

11011 Richmond, Suite 700  
Houston, TX 77042

## Grid

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • CAD/CAM • Graphics • Mapping

Memory required: 64K minimum.

This program, written in MACRO, creates equally spaced lines parallel to the x- or y-axis from user-specified minimum and maximum values, and then the output file generated is rotated, if desired. The output file is then drawn on the plotter as a reference scale, as a background for charts, or as an overlay for an existing drawing to grid complex points for digitizing.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000

**Contact:** Dean Lampman  
(513) 874-4499

STARFLO ENGINEERING

4740 A Interstate Drive  
Cincinnati, OH 45246

## GROUSE Ground Modeling System

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Architecture • Civil engineering • Mapping

GROUSE generates ground surfaces from random spot height survey data and displays surfaces as contoured plans, sections, and perspective views. Input includes digitized site boundary and spot height data. Users can interact with displayed results to modify surfaces, and the program calculates consequent cut-and-fill requirements.

GROUSE includes additional facilities to superimpose objects, such as buildings or vegetation, on a ground form and to obtain area values, density of objects within an area, linear distances, and slope conditions. GROUSE applications continue to be developed to meet particular user needs. The emphasis is on congenial user interaction.

The system, written in C, requires any computer that runs full UNIX\* V7, SIII BSD 4.2, or commercially available versions, such as XENIX or UNITY. Current smallest configurations include DIGITAL's LSI-11/23 microprocessor with 22-bit addressing, with at least 256KB



memory and 10MB hard disk, as well as back-up media. Available hardware includes more powerful Motorola 68000- or National Semiconductor-based microcomputers, such as the Whitechapel MG1, at similar cost.

Peripherals include a raster graphics terminal, such as the Westward GT1015 or GT2015; a graphics plotter, such as the Hewlett-Packard 7475 (A3) or 7580/5 (A1/0); a digitizer, such as the TD HR-48 or Summagraphics ID-36; and a dot matrix or daisywheel printer. Equipment can be obtained independently of software; consulting services are offered on selection, purchase, and commissioning of equipment.

The data base management system supplied works efficiently on small computers, can be used for other computing applications, and allows adding applications functions. Included error trapping and recovery functions protect users from accidental loss of files.

A version of this product is available for VAX computers.

**Price:** £10,000

**Contact:** Aart Bijl

44-(031) 667 1011 ext. 4598

EDCAAD, DEPARTMENT OF ARCHITECTURE

University of Edinburgh

20 Chambers Street

Edinburgh EH1 1JZ United Kingdom

## Hammer

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Flow analysis  
• Project management • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, uses a systems approach to determine the Waterhammer pressure-time history in a simple or complicated network of closed circular pipes for any abnormal operation. The flow and head are solved for each node point at the end of each time increment. The dynamic equilibrium and continuity equations are transformed and expressed in finite difference form, using a fixed space-time grid.

**Price:** \$350

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## HBOLTS

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, determines the stress in bolts used for harnessing pipe joints, such as the type in section 19.8 of the *AWWA M11 Steel Pipe Manual*. Users can select the coarse-thread series or the fine-thread series, such as ASTM A-307 Grade 1 or ASTM A-325 Grade 5, or can enter data for any bolt desired. Users can have the program compute the number of bolts required or can enter the number of bolts desired.

**Price:** \$150

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

## **HEC 1: Runoff Hydrographs**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Civil engineering • Flow analysis

HEC 1 performs a variety of runoff hydrograph computations, including manipulations of station and basin rainfall and snow data, calibration of rainfall/snowmelt/runoff models, and river-routing models. HEC 1 also computes stream system flood hydrographs and economic evaluations of basin modifications and structural effects. Input and output can be in either English or metric units.

A version of this product is available for VAX computers.

**Price:** \$700

**Contact:** Sales Representative  
(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.  
116 W. Plume Street  
Norfolk, VA 23510

## **HEC 2: Backwater Profiles**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Civil engineering • Flow analysis

HEC 2 computes the backwater surface profile for channels of any cross section for either subcritical or supercritical flow conditions. The effects of bridges, culverts, and weirs can be considered in the computations. Capabilities are available for assessing the effects of channel improvements, levees, and floodways on the water surface profiles. Input can be in either English or metric units.

A version of this product is available for VAX computers.

**Price:** \$950

**Contact:** Sales Representative  
(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.  
116 W. Plume Street  
Norfolk, VA 23510



**Holes****PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11**Keywords:** • CAD/CAM • Graphics • Manufacturing  
• Mechanical engineering

Memory required: 64K minimum.

This program, written in MACRO, creates bolt hole patterns from user-defined input specifications. Prompts are for bolt pattern radius, bolt hole radius, starting angle (where the first hole is to appear relative to the x-axis), tapped or counterbored holes, and if counterbored: radius, counterbore line type (hidden lines may be selected for counterbore).

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000**Contact:** Dean Lampman  
(513) 874-4499STARFLO ENGINEERING  
4740 A Interstate Drive  
Cincinnati, OH 45246**Hoop****PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11**Keywords:** • CAD/CAM • Calculation aids • Manufacturing  
• Mechanical engineering

Memory required: 64K minimum.

This program, written in MACRO, calculates hoop stress for long pressure vessels or pipe, using the standard hoop stress formula given in the American Society of Mechanical Engineers Pressure Vessel Code. The three variables are thickness of the material, allowable tensile stress, and internal pressure. When any two of the three variables are supplied, the third variable is then calculated.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000**Contact:** Dean Lampman  
(513) 874-4499STARFLO ENGINEERING  
4740 A Interstate Drive  
Cincinnati, OH 45246**HSULF (Hydrogen Sulfide)****PDP-11 Operating System:** RSTS, RT-11**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This system, written in FORTRAN, enables the user to determine the life of a concrete sewer line that is subjected to corrosion by hydrogen sulfide. Three types of input are used: program constants, which can be

reviewed and altered; sewage characteristics, which are assumed to be constant throughout the system; and data for each uniform run of the line, such as changes in quantity flow, I.D. of pipe, and the grade. Sections flowing full can be evaluated as to buildup. Up to 100 sections with 4 flows a section can be evaluated.

Because of the large number of entries, a means of correcting each block of data is provided as the information is entered. Users can run SIZEP to determine line diameters prior to running the system. In addition, the size and the sulfide content of any flow entering the pipe system must be determined before running the program. That includes the initial sulfide content of the sewage at the beginning of the sewer line.

Output for each reach of pipeline includes initial and final sulfide concentration and life expectancy as well as velocity, time of passage, quantity, and depth of flow.

**Price:** \$300

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

### **I\*S\*P\* (Interactive Signal Processor)**

**PDP-11 Operating System:** RSX

**Keywords:** • A/D, D/A • Graphics • Scientific  
• Signal processing

**Memory required:** 64K and 3MB of on-line disk storage.

The I\*S\*P\* software package provides a fully integrated interactive signal processing system for developing customer-unique digital signal processing application programs in a minimum amount of time. As an easy-to-use, high-level signal processing programming language, I\*S\*P\* includes signal processing, graphics, and data management functions. Among the signal processing functions are transform functions, such as FFT and Walsh transforms, IIR and FIR filter design/implementation functions, linear-prediction functions, coherence and cross-correlation functions, and all mathematical functions for standard array processing. I\*S\*P\* also supports real/complex floating-point and finite word-length data formats. Graphics capabilities include parameter-driven 2-D and 3-D displays with automatic/manual scaling and labeling, as well as zoom, interactive file editing, and histogram displays. Comprehensive data and file management functions allow easy access to multiple-channel data files and programs in the I\*S\*P\* files. New signal processing and graphics functions can be interactively designed by using the I\*S\*P\* command language. Other new applications can be written in FORTRAN and run interactively from I\*S\*P\*. A large number of FORTRAN-callable signal processing, graphics, data management, and file I/O subroutines



are provided. Data acquisition functions are also available for A/D conversion directly to I\*S\*P\* data files and for D/A conversion from I\*S\*P\* data files.

I\*S\*P\* is written in FORTRAN and assembly language.

A version of this product is available for VAX computers.

**Price:** \$5700 - \$14,000

**Contact:** Peter Moss

(617) 275-7246

BEDFORD RESEARCH

4 DeAngelo Drive

Bedford, MA 01730

### **I/CAP (Interactive Electronic Circuit Analysis Program)**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Electronic • Modeling/simulation  
• Text management

This revised and augmented interactive version of the IBM ECAP/360 program permits data to be input by using the full ECAP formats, as specified in the ECAP manuals. In addition to ECAP/360 features, I/CAP provides full 50-node, 200-branch capability; a conversational, easy-to-use interactive free-format input language; a built-in text editor; selected output control; graphics output; and stored subcircuit models.

**Note:** This program requires floating-point hardware and FORTRAN-77.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Carol Kunz, Director of Marketing

(505) 266-9622

BERNE ELECTRONICS, INC.

120 Dartmouth, S.E.

Albuquerque, NM 87106

### **ICLAYOUT**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • CAD/CAM • Electrical • Graphics  
• Manufacturing

ICLAYOUT is a CAD/CAM software package for designing and manufacturing masks for integrated circuits, hybrid circuits, discrete devices, and so on. The package features extensive on-line design and editing capability. The user may define the fill density and named cells and their subsequent manipulation as single entities. The user may also zoom or pan to any magnification. Plus, multiple step and repeat, rotation, and mirror reflection serve any angle, including fraction of a degree. A powerful cut command removes features within specified boundaries. The system will display on command digitizing grid

points, center coordinates, resolution, and scale. The system performs an on-line CAM rule check and a true display of the final artwork. Technology-related commands include resistor, ohm/square, capacitance, film volume, and more.

Other features include parametric cells; built-in circle, arc, and alpha-numeric; BASIC-like commands that allow the user to define his/her own design rule; and user-definable points equal to  $10^{14}$ . The system automatically creates file documents. Session dialog is preserved in instruction files. Graphic information is saved in drawing files.

The system updates pick a menu so that only related commands and keywords will be shown. Further, the system checks for violation of user-definable minimum feature size.

The package supports a hard-copy unit to dump graphic/text information from screen, a data tablet, a modem, color graphics/text display, a drum plotter, a digitizer, a color printer/plotter, a camera, a half-inch magnetic tape drive, and a paper tape puncher.

A version of this product is available for VAX computers.

**Price:** \$5000 – \$30,000

**Contact:** Nancy Wang, Assistant Manager  
(617) 891-9829

COMPUTER GRAPHICS  
22 College Farm Road  
Waltham, MA 02154

## **I/LOGIC (Interactive Logic Simulation)**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Diagnostics • Modeling/simulation

This interactive program for simulation of digital logic circuits allows the engineer to check out logic designs prior to breadboarding. The user can input data for each logic block, run the simulation, make modifications, and store the problem on data files. The problem can then be retrieved from disk files, edited, and rerun as desired. Timing diagrams are printed at the terminal, thus allowing the user to check designs quickly. The program can handle certain logic blocks: RS, JK, T, D, 1-shot, and flip-flop; AND, NAND, OR, NOT, and XOR gates; buffers and inverters, with or without delays; and programmable switches and clocks.

All gates allow up to eight inputs, and all signal complements can be obtained by using the negative of the signal desired. A macro command is available for definition and repeated use of special functions in a simulation. Initialization of all blocks, variable waveform inputs, and race-condition checks are also provided.

**Note:** Requirements to run this program are floating-point hardware and FORTRAN-77.

A version of this product is available for VAX computers.



**Price:** Available upon request

**Contact:** Carol Kunz, Director of Marketing  
(505) 266-9622

BERNE ELECTRONICS, INC.

120 Dartmouth, S.E.

Albuquerque, NM 87106

### **ILS (Interactive Laboratory System)<sup>TM</sup>**

**PDP-11 Operating System:** Micro/RXS, RSX, RT-11

**Keywords:** • Medical • Scientific • Signal processing

This comprehensive set of FORTRAN programs investigates signals and their properties. Those signals can be EKG traces, heart sounds, sonar signals, speech sounds, seismic pressure waves, radar reflections, and so on.

The software handles both real and complex data and supports addition, multiplication, magnitude, hard and soft limiting, phase wrapping and unwrapping, FFT and inverse FFT, autocorrelation, cross-correlation, convolution, spectral density, coherence, and moving or exponential averaging to reduce the variance of the estimates. The ILS programs allow data scanning and manipulation, spectral analysis, and pattern analysis/recognition. The software operates in an interactive or batch mode and includes graphics.

ILS contains a standard set of file structures, including sampled data files, analysis files, record files, and label files, which in combination can store and access numerous data types. The file conventions permit the efficient transfer of information from one program to the next and enhance the transportability of data and programs among installations.

ILS permits graphical operations, such as scaled data displays, multiple calibrated data displays with user-defined grid options, scatter plots with principal component-analysis options, and 3-D displays of spectra and spectral models.

A version of this product is available for VAX computers.

**Price:** \$5100 - \$14,800

**Contact:** Brian Montgomery  
(805) 683-3771

SIGNAL TECHNOLOGY, INC.

5951 Encina Road

Goleta, CA 93117

### **ILS/SKY**

**PDP-11 Operating System:** RSX

**Keywords:** • Modeling/simulation • Scientific  
• Signal processing

This integrated signal-processing software takes advantage of the SKY Computers, Inc., Micro Number Kruncher (SKYMNK) array

processor. A comprehensive set of high-level interactive programs allow the user to begin performing signal-processing operations without programming.

The ILS/SKY software takes advantage of the high-speed array processor for doing Fast Fourier Transforms (FFT) and other types of vector operations, thereby enhancing the performance of signal-processing operations. The programs allow data scanning and manipulation, digital filtering, signal modeling (parameter estimation), spectral analysis, 3-dimensional displays, and more. Also included are extended signal-processing operators for addition, multiplication, magnitude, phase wrapping and unwrapping, FFT and inverse FFT, autocorrelation, cross-correlation, convolution, coherence, and spectral density.

**Price:** \$6900 - \$15,500

**Contact:** Brian Montgomery  
(805) 683-3771

SIGNAL TECHNOLOGY, INC.

5951 Encina Road  
Goleta, CA 93117

### IMSL Library

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Application development • Mathematics  
• Programming tools • Statistics

The IMSL Library contains more than 500 mathematical and statistical FORTRAN subroutines. Serving as building blocks, the subroutines save costly programming time during development of FORTRAN application programs. The Library offers a wide variety of accurate, thoroughly tested subroutines that provide computational accuracy. The Library subroutines are arranged in 17 chapters on differential equations, quadrature, and differentiation; eigensystem analysis; interpolation, approximation, and smoothing; linear algebraic equations; vector matrix arithmetic; nonlinear equations; optimization; linear programming; basic statistics; regression analysis; analysis of variance; nonparametric statistics; observation structure; multivariate statistics; categorized data analysis; generation and testing of random numbers; and utility functions.

Substantial price discounts are available for universities.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Sales Division  
(713) 782-6060

IMSL, INC.

2500 Park West Tower One  
2500 City West Boulevard  
Houston, TX 77042-3020



**ISL (Interactive Simulation Language)****PDP-11 Operating System:** RT-11**Keywords:** • Aeronautics/aerospace • Chemical  
• Modeling/simulation • Real time

This total software system for solving nonlinear differential equations includes an integrated monitor, an editor, a compiler, a math library, and graphics. Because ISL generates its own user-compiled code instantaneously, it is several times faster than FORTRAN or BASIC.

The programs are written directly from simple mathematical flow diagrams. Total memory is the only limitation on program size.

**Price:** \$500 - \$1500**Contact:** R. D. Benham

(509) 783-3829

INTERACTIVE MINI SYSTEMS, INC.

5312 W. Tucannon

Kennewick, WA 99336

**IUC (Interactive Unit Commitment)****PDP-11 Operating System:** RSX**Keywords:** • Electrical • Modeling/simulation • Scheduling

This program determines a thermal unit commitment schedule that satisfies the system operating constraints and minimizes the resultant total cost. The total cost includes fuel and time-dependent start-up costs and maintenance and labor charges. Starting from a set of initial unit status, the program determines when to start and shut off thermal units to meet the forecasted load and system constraints. The program observes the following constraints: unit minimum up and down times and minimum and maximum generating limits, on-line and off-line reserve requirements, must-run and must-out units, units on fixed generation, changes in unit generating limits and capacity, transfer limitation between areas in the system, total system reserve, minimum reserves for areas in the system, unit response rate, and fixed-schedule purchases and sales.

**Price:** Available upon request**Contact:** G. E. Scott

(518) 374-1220

POWER TECHNOLOGIES, INC.

P.O. Box 1058

Schenectady, NY 12301

**Lambert Geodetic Conversion****PDP-11 Operating System:** RSTS**Keywords:** • Civil engineering • Data conversion • Geoscience

This program converts geodetic longitude and latitude values to state plane coordinates and vice versa. Input is interactive or from COGO files. Source language is BASIC or FORTRAN.

A version of this product is available for VAX computers.

**Price:** \$350

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

### **LDAT (Logic Design Automation Terminal)**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Electronic • Modeling/simulation

LDAT is used with a semiautomatic wire wrap machine to define, capture, and control complex logic network designs from conception through large-scale manufacture and test. The system can improve engineering productivity as much as two or three times, and overall project development time can be vastly reduced.

LDAT maintains a complete library of design elements (ICs) and their associated parametric data. New ICs may be added with ease with the data base editor. The input logic network is analyzed for electrical interconnection rule violations, loading errors, and signal transmission length. After the printed LDAT network documentation package and analysis has been evaluated, the particular revision level is frozen, and build or rework tapes can be generated.

LDAT is a proven system for supporting digital design tasks. Features for wire wrap prototype and production include electrical network analysis; a powerful near-optimal path router for routing signals for minimum lengths; fixed, via, and twisted pair strings; automatic change order and revision control; channel or airline routing; direct interfaces for fabrication of discrete or printed wiring boards; and direct interfaces for logic simulation and test pattern development.

A full interactive graphics front end is available; see SDM (Symbolic Drawing Machine).

**Price:** \$15,000

**Contact:** John Thorne

(818) 884-8957

CADMATICS®

21907 San Miguel Street

Woodland Hills, CA 91364

### **Linwood (Linear Least-Squares Curve-Fitting Program)**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Data conversion • Graphics • Mapping  
• Statistics

Memory required: 32K for 32K user partition.

This program allows the user to transform data into an appropriate form. The program fits specified equations to the transformed data by linear least-squares and provides both statistics and plots to aid in



evaluating the fit. A  $C(p)$ -statistic search technique determines if smaller sets of the variables will represent the data equally well. The transformations available to the user include reciprocals, sums, differences, products, quotients, logarithms, and exponentials.

In addition to the usual statistics, the program calculates the maximum and minimum value of each variable as well as its range, the relative influence of each variable, and the weighted squared standardized distance of each observation from the centroid of all observations.

The program, as dimensioned, handles up to 35 before transformations, 10 after, and 200 observations. Program change cards are included to allow a computer center to also offer two other programs — one that handles up to 105 variables before transformations, 80 after, and 1000 observations; and the other that handles up to 65 variables before transformations, 40 after, and 1000 observations. Multiple dependent variables are fitted one at a time, and multiple forms of specified linear equations can be fitted with one data loading. DECUS number 11-419.

Note: A DECsystem-10 version is available as DECUS number 10-257.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## Loads

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Calculation aids • Civil engineering  
• Structural engineering

Memory required: 256K.

This system, written in FORTRAN, has four options for computing external loads on pipe:

- The first option uses Marston's method to compute trench earth loads on rigid conduits, loads for various heights of cover, and the transition widths and loads.
- The second option uses Marston's method to compute positive-projecting earth loads on rigid conduits. The transition width is also computed for each height of cover. The system advises the user if the design is complete or incomplete.
- The third option computes live loads on underground conduits in which loads, such as truck wheels, are transmitted through the soil in accordance with the Boussinesq solution for stress distribution for a semiinfinite elastic solid.
- The fourth option computes earth loads on rigid conduits for various heights of cover, based on the USBR method.

**Price:** \$125

**Contact:** J. Bill Wallace  
(714) 848-4405

**COMPUTAPIPE**

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

**M11 PIPE**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

**Memory required:** 256K.

This system, written in FORTRAN, computes the wall thickness of steel pipe in accordance with Chapter 6 of the AWWA *M11 Steel Pipe Manual*. The design can be based on the ID or the OD of the pipe. The type of steel can be selected from a standard menu, or the input of any steel can be entered, as well as the minimum yield. The program prompts for the minimum, maximum, and increment pressure and for the percent of yield to be used for design purposes. M11 PIPE also computes the appropriate cylinder weights and collapse pressures.

**Price:** \$100

**Contact:** J. Bill Wallace

(714) 848-4405

**COMPUTAPIPE**

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

**MBP (Metal Building Program)**

**PDP-11 Operating System:** Micro/RXS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Civil engineering • Graphics • Metals  
• Structural engineering

MBP's unique mode of operation optimizes the design of preengineered metal building systems. Initially, the program operates until the lightest frame that meets the AISC code is obtained. Then MBP displays a summary of the design results and presents a choice of options that allow the user to see pictures of the deflected shapes or to change the plate dimensions and reanalyze the frame, and so on. The automatic user-controlled mode of operation allows the user to tailor the frame.

The program features multiple-span multistory frames; tapered built-up members; concentrated, distributed, and temperature loads; forced displacements; elastic supports; self-weight calculations; plots of the undeflected geometry, deformed shapes, and internal stresses; a user-specified plate library; true free-format input; and extensive data checking and comprehensive error-condition reports.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$5000

**Contact:** Arturo Durand

(213) 398-3106



INTERNATIONAL STRUCTURAL ENGINEERS, INC.  
P.O. Box 241740  
Los Angeles, CA 90024

### **MCSIM (Monte Carlo Simulation)**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Biology • Mathematics • Research • Statistics

MCSIM is a FORTRAN program for evaluating parameter estimation accuracies and related sample statistics for a given model with given data error statistics, by computer simulation of multiple experiments. The user provides the model and data statistics in a FORTRAN subroutine and standardized format. Program output is highly readable and user friendly.

A version of this product is available for VAX computers.

**Price:** \$500 - \$1000

**Contact:** Dr. Joseph J. DiStefano III, Professor  
(213) 825-7482 or 825-4033

UNIVERSITY OF CALIFORNIA, LOS ANGELES  
School of Engineering and Applied Science  
Biocybernetics Laboratory, 4731K Boelter Hall  
Los Angeles, CA 90024

### **MINIMOVIE.BYU**

**PDP-11 Operating System:** RSX

**Keywords:** • Graphics • Mathematics • Modeling/simulation  
• Pre- and postprocessors

The MINIMOVIE system consists of FORTRAN programs that facilitate the display and manipulation of data representing mathematical or architectural models whose geometry may be described in terms of polygonal elements. The source of the polygonal element data is often a finite element or finite difference analysis.

The programs work in harmony to provide perspective displays in line drawing or continuous-tone image format; clip and cap 3-dimensional finite element systems to expose internal surfaces; modify geometry, displacement, or scalar function files by way of correction, differencing, appendage, or symmetry operation; and generate new models or title representations.

The MINIMOVIE system is a 16-bit version of MOVIE

YU and features a disk-resident data base that allows the processing of large models on a small machine.

**Price:** \$500 - \$1000

**Contact:** Dr. Bruce J. Nay  
(801) 378-2903

BRIGHAM YOUNG UNIVERSITY, CIVIL  
ENGINEERING DEPARTMENT  
368 CB  
Provo, UT 84602

**Minimumtour: Minimum Path Routines**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mathematics

**Memory required:** 12KW.

These routines derive an optimal path through a set of coplanar points and return a sequence of integers that represents ordinal point identifiers, the points having been given as sequences of coordinates. The derived path is "nearly optimal" in the sense that if it is not the shortest possible, it will not be significantly longer.

Note: NBS Pascal compiler pass .SAV files and NBS Pascal support library .OBJ files (included with program) are required to compile and execute the Pascal version. The FORTRAN version can be run with standard DIGITAL software. The program must be modified if required to solve a problem of more than 20 nodes. DECUS number 11-599.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

**MOFI**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

**Memory required:** 256K.

This program, written in FORTRAN, determines the areas, centers of gravity, moments of inertia, and section moduli for irregular sections, such as prestressed T-beams, L-beams, and hollow-core slabs. The sections can be all linear elements defined by coordinate points, as well as elliptical and circular elements and slots with circular ends. Results are given for both axes.

**Price:** \$175

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

**MOSFIT (MOS Transistor Model Parameter Extraction Package)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • CAD/CAM • Electronic • Modeling/simulation  
• Research

MOSFIT, used for modeling MOS transistor characteristics, is a companion to SIMIC MOS Integrated Circuit CAD program. The SPICE



MOS 3 MODEL is also supported. The package contains three routines that measure transistor I-V data through the IEEE 488 bus, extract and optimize model parameter values, and display measured and simulated I-V curves for visual comparison.

Parameter optimization is carried out within user-set search boundaries. The menu-driven software is interactive to allow control over the parameter extraction process. The model provides an accurate representation of MOS device behavior, including short and narrow channel effects, drift velocity saturation, nonuniform impurity profiles, channel length modulation, and parasitic series resistance effects. The program is structured to allow other device model subroutines to be installed, if required.

A version of this product is available for VAX computers.

**Price:** \$9750

**Contact:** Allan Silburt, Technical Specialist  
(613) 836-3134

MOSAID INC.

P.O. Box 13579

Kanata, Ontario K2K 1X6 Canada

## NDTRAN2

**PDP-11 Operating System:** RSTS

**Keywords:** • Interpreters • Modeling/simulation • Research  
• Source code control

**Memory required:** 28K.

NDTRAN2 is a dynamic simulation interpreter capable of carrying out dynamic and stochastic simulations. It is available in two basic versions: a research version that accepts a source simulation program of up to 4000 statements and a standard version that can execute programs somewhat larger than WORLD3 and that operates on a computer with a 28K FORTRAN batch partition.

The standard version is available in a double-precision version or a single-precision version, depending on the requirements of the computer at the installing college or university. All versions sent to installations with PDP-11 computers are single precision, requiring the half-word integer option.

The source program for NDTRAN2 is approximately 13,000 statements in length, of which about 8000 are COMMENT cards, which constitute the basic documentation for the NDTRAN interpreter. The COMMENT statements in the main program NDTRAN contain parameters that must be set for the installation computer. DECUS number 11-512.

**Note:** Source program includes extensive documentation in the form of 8000 comment statements.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## Network

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Flow analysis  
• Modeling/simulation • Structural engineering

Memory required: 256K.

This interactive program, written in FORTRAN, carries out regular simulations of steady-state pressure and flow in pipe distribution systems transporting liquids. In addition, extended period simulations can be carried out. Peak demands, such as fire demands through certain nodes, can be analyzed within the simulation period.

**Price:** \$1200

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## NEUPAN (Neutral Point Analysis)

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Flow analysis  
• Structural engineering

Memory required: 256K.

This system, written in FORTRAN, can be used to determine moments, thrusts, and shears in circular pipes and rings as well as shapes that derive from the circle but that are not uniform in wall thickness. Although the neutral-point method requires that the structure be symmetrical, loadings do not have to be symmetrical. However, nonsymmetrical loadings have not been applied to the system.

Applications include a study of the redistribution of stresses after corrosion by hydrogen sulfide, the study of a pipe with a concrete bedding assumed to act integrally with the pipe wall, and the study of a modified circular pipe with a flat base and a flattened invert. Structures are, of course, not limited to pipes. Tunnels, pressure vessels, tubes, and such can also be analyzed.

**Price:** \$300

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## NONLIN (Nonlinear Least-Squares Curve-Fitting Program)

**PDP-11 Operating System:** IAS

**Keywords:** • Calculation aids • Mathematics • Statistics

Memory required: 70K user partitioned.



This program allows the user to estimate the coefficients of a nonlinear equation such as  $Y + A/(x + B)^2$  and  $Y = A \times B = C$ . An iterative technique is used; the estimates at each iteration are obtained by Marquardt's Maximum Neighborhood Method, which combines the Gauss (Taylor Series) Method and the Method of Steepest Descent.

Since numerous forms of equations can be used, the user must specify the form by providing a subroutine to compute the values of the equation's coefficients. In addition, the user must provide a control card, a format card for reading data, and estimates of the starting values of the coefficients.

The output of the program is a printed report that includes a description of the problem, the starting values of the coefficients, the size of the incremental steps, a summary of each iteration, and a summary of the final fit (in terms similar to those in the Linear Least-Squares Curve-Fitting Program, DECUS number 11-419). The statistics calculated include the number of observations and coefficients, the residual degrees of freedom, the maximum and minimum values of the dependent variable as well as its range, the standard error and *t*-value for each coefficient, the residual sum of squares, the residual mean square, and the residual root mean square.

Provisions are made to run multiple programs as well as different equations using the same data. The program as dimensioned (70K) will handle up to 20 variables and 170 observations. Information is given in the program listings on which dimensions to change in order to reduce the overall dimensions or to increase either the number of variables and/or the number of observations the program will handle. DECUS number 11-420.

Note: A DECsystem-10 version is available as DECUS number 10-258.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### Offset

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, computes offset stations and equations for pipelines that are to run parallel to a survey line. For example, sometimes two pipelines may be in the same trench with the survey line running between the two pipelines.

**Price:** \$100

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## **OLANDR**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, can determine for any given angle of bedding the moments, thrusts, and shears for any point on the wall due to pipe weight, water weight, and cover loads. Forces are assumed to act radially, based on the assumption that tangential forces are minor. Therefore, the loading pattern is used extensively in the design of prestressed pipe and C361 pipe.

**Price:** \$150

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## **OPTAN (Optical Systems, Evaluation, and Analysis)**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Optics • Scientific

This interactive optical analysis program is designed for ray-tracing complex multiple imagery, including nonrotationally symmetric aspheric systems. Two glass catalog data bases — Schott and Ohara — are provided for easy access to and changes of glass parameters. Non-standard parameters can also be entered. Systems of up to 48 surfaces can be analyzed, and aberrations of up to fifth order can be calculated for nominal, minimum, and maximum wavelengths. Output can be obtained for surface-by-surface ray data; paraxial marginal and principal ray heights and angles at the surfaces; upper and lower rim ray heights at each surface for relative vignetted apertures, for three relative field positions; and any general skew ray for specified object and pupil coordinates.

This program requires floating-point hardware and FORTRAN-77.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Carol Kunz, Director of Marketing

(505) 266-9622

BERNE ELECTRONICS, INC.

120 Dartmouth, S.E.

Albuquerque, NM 87106

## **Outlet**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.



This program, written in FORTRAN, is a reinforcement design of outlets according to the AWWA *M11 Steel Pipe Manual*. Outlet advises the user if the run pipe or outlet is not thick enough, notifies the user of the maximum pressure allowed if no reinforcement is required, directs the user to the wrapper, advises the user if the crotch plate is required, gives reinforced collar size and weight, gives overall size of reinforced plate and weight, and permits the user to select an alternative steel thickness.

**Price:** \$100

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## Paris

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Project management  
• Structural engineering

Memory required: 256K.

This program, written in FORTRAN, is based on equations given for the various cases outlined in Roark. Pipe weight, water weight, variable width, vertical loadings, bedding reactions, and lateral loads that are variable in width and magnitude are possible. Supposedly, lateral reactions do not occur because of pipe weight or water weight.

Output can be in coefficient form, or the actual pipe sizes, wall thicknesses, and cover loads can be entered and the critical forces determined for a specific installation.

**Price:** \$150

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## PIPCOS

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Cost accounting  
• Project management • Structural engineering

Memory required: 256K.

This series of systems, written in FORTRAN, can be used for engineers' estimates. These systems are designed to produce costs for standard production runs on a project-by-project basis. Various kinds of pipe can easily be estimated and include prestressed concrete pipe, reinforced concrete pipe and steel pipe, mortar lined and coated, and so forth. PIPCOS features an easy section to control raw-material costs,

such as cement, sand, gravel, steel, and so forth. Those costs can be quickly updated when new prices are received.

**Price:** \$125

**Contact:** J. Bill Wallace

(714) 848-4405

**COMPUTAPIPE**

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

### **Pipeline Layout #6000**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Project management  
• Software utilities • Structural engineering

**Memory required:** 256K.

This system, written in FORTRAN, includes 14 programs that are linked to produce the following results:

- CHECK allows users to easily check existing LAYPIP files for errors.
- HCROFF computes staking information for horizontal curves (radial), based on deflection method for curve layout.
- HCROF2 is identical to HCROFF except that the staking information is related to the alternate stationing, such as the trench bottom, rather than the actual pipe stationing.
- LAYPIP computes laying schedules for pipelines.
- LISTER permits users to print smaller areas of LAYPIP files without having to print the entire file.
- MERGPF merges two pipe files into a single file.
- MISMAT allows users to generate bills of material for miscellaneous items, such as gaskets, loose flanges, and so forth.
- PTBEV prints a finished report on 8½" × 11" pages of all bevelled pipe used on a particular project as produced by the LAYPIP program.
- PTLAY prints the pipeline-laying schedule produced by LAYPIP.
- PTLAY2 prints a laying schedule from data produced by LAYPIP and computes and prints alternate stationing and elevations for any other reference plane.
- PTSUM reads the data produced and stored by LAYPIP and retrieves all the pipe items and stores them sequentially in a temporary file that is then sorted according to pipe type, class, length, and so forth.
- REVFIL is an editing program for LAYPIP files that edits existing files, changes pipe descriptions, resequences pipe numbers, and adds, revises, or deletes comments and outlets.
- PTCCL prints a sequential listing of all cylinder cut lengths from the LAYPIP files.
- PTELL produces a finished report of all elbows on a project. The program reads the LAYPIP design file for all elbow fittings, groups them according to their number of cuts, and prints all data needed to prepare detailed drawings.



**Price:** \$6500

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

## PLDATA

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, helps users organize pipeline layout data. Users can take off data by types, such as VPIs, HPIs, class changes, outlets, equations, and so forth. After all entries are made, the program sorts them by sequential station and provides an organized listing of design conditions. The program computes slopes and deflection angles at VPIs as well as elevations at equations, if the equations are between VPIs.

**Price:** \$100

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

## Project Cost Accounting System

**PDP-11 Operating System:** Micro/RSTS

**Keywords:** • Cost accounting • Financial management  
• Project management • Scheduling

This system, written in DIBOL 83, combines project cost reporting for management with a complete accounting system to serve the special needs of engineering, contracting, consulting, and aerospace companies. Special features include project budgeting, labor forecasting and time planning, cash use, automatic adjustments for unbilled work in process, and user-controlled overhead rate application.

**Price:** \$10,000

**Contact:** Margaret Hodder  
(617) 484-1709

CORPORATE CONSULTING CO.

556 Trapelo Road  
Belmont, MA 02178

## Project Delta, Section B: Statistics

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Education • Scientific  
• Statistics

Memory required: 8K.

Section B consists of the following programs: LNREG1 and LNREG2 perform simple linear regression calculations. BINOPO performs probability distribution comparisons. REGCOR performs regression and correlation analysis. CHISQ computes the probability of chi-square values. CHISQS performs chi-square statistics for  $m \times n$  contingency tables. GEOMEN computes statistics of geometric distribution. PHICOE performs phi-coefficient calculations. CORMAT is a correlation matrix for  $n$  series of data. ANVAR1 and ANVAR2 perform analysis of variance. HISTOG produces histograms on the user terminal. RANDEV generates random deviates. STAT1 produces statistics on two groups of unpaired data, STAT2 is a Mann-Whitney 2-sample rank test, and STAT3 calculates Spearman rank correlation coefficients. DECUS number 11-6.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Project Delta, Sections E and F: Additional Mathematics and Teacher Assistance**

**PDP-11 Operating System:** RSTS

**Keywords:** • Education • Mathematics • Statistics

**Memory required:** Mostly under 8K.

Section E mathematics programs are as follows: GLPSA1 is a 2-phase simplex method of linear programming. TMFCEV performs time function evaluation (engineering applications). CALC is a calculator for numbers of up to 100 digits. CXEXP raises a complex number to a real or a complex power. GSIMEQ solves simultaneous linear equations. CXARTH performs vector arithmetic operations. POLY finds the polynomial to approximate a table of  $x$ - $y$  data. POLFIT performs multiple regression/correlation analyses. FREQ finds a number of data points (frequency) within limits (data can be in a file or from a terminal). RANDOM generates random numbers with user-specified sample and population sizes. ANVAR3 computes analysis of variance table for a 2-way classification of variables design in which a single observation is made for each combination of levels. ANVAR4 computes analysis of variance table for a 2-way classification of variables factorial design with replicated observations. GANOVA computes analysis of variance table for a 2-way classification of variables (data is entered down columns). MULTX performs a least-squares curve fit to one of seven functions (operation is interactive at the terminal). POLSUB exercises students in polynomial subtraction operations. GINTLP solves linear programming problems with variables of values 1 and 0. SIPRAC exercises students in mathematical operations on signed numbers. KR20 performs item analysis and Kuder-Richardson formula 20. DE10R solves a first-order differential equation (Runge-Kutta). DE20R solves second-order differential equations (Runge-Kutta). SUNSET computes Greenwich Mean Time (or other time) for sunrise and sunset, given a particular week and a given latitude and longitude. WAVES plots the effects of changing wavelength, amplitude, and phase on two



waves and their sum. SPCTRA plots optical absorption spectra of two species equilibrium mixtures. FACTRL produces any desired factorial and preceding factorials. SQRZ finds the square root of a complex number. BISQAR provides drill for students on squaring binomials.

Section F teacher assistance programs are as follows: AVERG1 averages and curves grades. GRADE, given the number of questions on a test, prints a list of percent score versus number of questions right or wrong. STAT performs statistical analysis of student grades. SCORES computes mean, standard deviation, and standard scores for student grades. DECUS number 11-152.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **PSS/2P (Power System Simulator)**

**PDP-11 Operating System:** RSX

**Keywords:** • Electrical • Flow analysis • Modeling/simulation

This integrated set of programs allows the power system engineer to execute load flow and short-circuit studies and to construct network equivalents in an interactive manner. Problems as large as 256 buses and 384 branches with 128 generator units can be processed. The calculation methods used in PSS/2P have been developed and proven by PTI as a result of research on computational methods and of application of those methods to various power system analysis studies.

This package of programs has been designed for a PDP-11 minicomputer used by engineering groups on a dedicated basis. The minicomputer is distinguished by its relatively small size and low price in relation to its central processor speed and by the use of a high-speed video terminal (CRT) for communication with users as they execute their calculations.

The following points illustrate the main computational characteristics of PSS/2P:

- The load flow solution can be executed by a nodal iterative (Gauss-Seidel), Newton-Raphson, decoupled Newton, or triangularized admittance matrix solution algorithm. The user selects the method, and the four methods can be interchanged at any time.
- The multiple unbalanced short-circuit calculation activity allows the user to apply simultaneously, at any bus, on any phase, the following combination of unbalances: single L-G fault, L-L or L-L-G fault, single phase closed, and double phase closed.

**Price:** Available upon request

**Contact:** G. E. Scott

(518) 374-1220

POWER TECHNOLOGIES, INC.

P.O. Box 1058

Schenectady, NY 12301

### **PSS/O-S (Power System Simulator for Operations)**

**PDP-11 Operating System:** RSX

**Keywords:** • Electrical • Flow analysis • Modeling/simulation

This package of software modules is designed for use as a 200-bus power system operator's load flow. PSS/O-S enables the operator to quickly conduct studies of possible network switching actions, generation shifts, and so forth, using similar-condition base-case data with appropriate system-condition adjustments made.

PSS/O-S performs interactive AC load flow (full Newton), network topology determination, economic dispatch calculation, bus-load allocation of system load, and network-dependent penalty factor calculation. The largest power system model that can be simulated with PSS/O-S is 200 electrical nodes and 350 branches.

The power system operator's needs and customary methods were the guiding considerations during PSS/O-S's design and development. For example, transmission lines and transformers are placed in and out of service at the circuit breaker and switch level. When breaker and switch operations result in isolated equipment, system splitting, and so on, PSS/O-S detects and processes such conditions.

**Price:** Available upon request

**Contact:** G. E. Scott

(518) 374-1220

POWER TECHNOLOGIES, INC.

P.O. Box 1058

Schenectady, NY 12301

### **RCPULT**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Geoscience  
• Structural engineering

Memory required: 356K.

This system, written in FORTRAN, computes earth loads, compression as well as tension, and the resulting area of reinforcement for the RCP type of pipe and allows the input of internal pressure. Designers can use various concrete strengths, steel stress, and various covers to the centerline of the reinforcement.

**Price:** \$75

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647



**REAP™ (Reliability Effectiveness Analysis Program)****PDP-11 Operating System:** RSX**Keywords:** • Data entry • Forecasting • Quality control

This system enables you to perform reliability predictions, based on the techniques and the data base contained in MIL-HDBK-217D-1. The program provides a complete implementation of MIL-HDBK-217, a configuration size and complexity limited only by storage capacity, menu-driven inputs to minimize personnel training and data entry errors, temperature scanning, an easily defined and modified component library, and a rich set of defaults for quick predictions.

REAP has been designed to respond uniformly and in a manner expected by an individual reasonably experienced in the field. Thus, the amount of training or retraining required to use the program is minimized. The responses to the menu prompts are checked to the greatest extent possible for validity. If necessary, when inputs for any component are omitted, default values are substituted and shown on the screen.

**Price:** \$6000**Contact:** Peter W. Bachant  
(617) 762-9252

SYSTEM EFFECTIVENESS ASSOCIATES

20 Vernon Street  
Norwood, MA 02072**Receptor System 8835****PDP-11 Operating System:** Micro/RXS, RSX**Keywords:** • Environmental • Security • Signal processing

Monitoring of fire, security, environmental, and status sensors and the control of remote devices or circuits is accomplished through use of the remote monitor and control panels. Each panel is microprocessor controlled, comes with a power supply and a standby battery, and is UL-approved for fire and security systems.

**Price:** \$20,000 - \$100,000**Contact:** Victor White

(213) 534-1900

RECEPTORS INC.

2570 West 237th Street  
Torrance, CA 90505**Regression Analysis for Michaelis-Menten Kinetic Data****PDP-11 Operating System:** RT-11**Keywords:** • Scientific • Statistics

Memory required: 30K virtual memory, 2K directed addressing memory for array storage.

This FORTRAN program calculates the Michaelis-Menton parameters  $V_m$ , the maximum velocity, and  $K_m$ , the substrate concentration at half-maximal velocity, and their 95% confidence ranges for the

dependence of enzyme activity of substrate concentration in the absence of product. The program uses simple nonlinear regression, nonparametric statistics, unweighted linear regression, and iterative weighted linear regression. The program requests a selection of the type(s) of regression(s) to be performed, a file of substrate and rate data containing up to 50 data points, and an appropriate  $T$ -statistic.

The initial  $K_m$  bracket values for the nonlinear calculations are assumed to be  $BRKM(1) = 0.0$  and  $BRKM(2) = 10.0$ . If that interval does not bracket the true  $K_m$ ,  $BRKM(2)$  is doubled until the appropriate bracket interval is obtained. Any negative  $V_m$  or  $K_m$  values generated by the nonparametric calculations are replaced by an arbitrarily large number ( $1.0E + 6$ ) and entered into the sorting routine with the other smaller and nonnegative  $V_m$  and  $K_m$  values. The final two values of the iterative weighted linear sum of least-squares calculations are tested for a convergence tolerance of 5.0%. DECUS number 11-469.

Restrictions: Regression cannot be performed for more than 50 data pairs.

Price: \$5 - \$225

Contact: DECUS (see Introduction)

## RES

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Calculation aids • Documentation tools  
• Modeling/simulation • Process control

RES automates MIL-HDBK-217, "Reliability Prediction of Electronic Equipment." The program serves the design and development environment and is oriented toward modern equipment architectures — assembly, unit, subsystem, and system. Starting with a human-engineering screen format, the user inputs the basic part reliability drivers — typically environment, temperature, quality level, and stress. RES is then run on the user-created data file and provides the usual reliability indexes of mean time between failures (MTBF) and probability of mission success  $R(t)$ .

For organizations whose products are reliability sensitive and for groups performing reliability assessments, RES allows equipment reliability simulation driven by environment, temperature, and part-quality changes. That leads to tradeoffs between competing factors and the all-important cost factor. Output from RES can be used for life cycle cost (LCC) work in determining logistics drivers and establishing maintenance factors.

RES resides on a single 8" floppy disk (a test demonstration disk is also supplied) that is loaded into the system. The user then creates a data file on a separate disk for the specific equipment of interest. Options are provided that, for example, calculate the percent failure rate for each part type and the leading highest failure rate parts. A simple language consisting of only five basic commands allows input processing



and output control. Because of the 80-column screen format, identical hard-copy forms can be prepared and checked off and input to the computer system when convenient.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** M. E. Drapier  
(613) 836-7360

RMI

P.O. Box 13299

Kanata, Ontario K2K 1X4 Canada

## REVR4

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This system, written in FORTRAN, checks type R4 joint designs for concrete pipe and is a modification of USBRJT, with the added feature of evaluating the use of available tolerances, based on the stretched gasket diameter. REVR4 will flag designs that have poor practical tolerance ranges, a feature not covered by USBRJT.

**Price:** \$125

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## REWALL (Retaining Wall Design)

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

REWALL designs cantilevered concrete retaining walls according to ACI code. Ultimate strength design is used. Input consists of wall height, trial toe, heel, and base dimensions; soil parameters; and steel and concrete constants. Output consists of final dimensions, sliding and overturning factors of safety, and reinforcing percentages required.

A version of this product is available for VAX computers.

**Price:** \$400

**Contact:** Sales Representative  
(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

### **RKLIN (Linear System Simulation: Runge-Kutta)**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Biology • Mathematics • Modeling/simulation  
• Research

This interactive FORTRAN program solves any set of  $n$  linear, constant-coefficient, or ordinary differential equations, where  $n$  is limited only by the host machine's memory capacity. Step (constant), impulse, and impulse-train inputs are provided as standard options. Other inputs can be easily implemented.

The algorithm is a variable-step, fifth-order Runge-Kutta procedure. Program input and output are self-explanatory. The user interactively enters the number of equations, input type, parameter values, and initial values of the  $n$  variables. Telephone demos are available.

A version of this product is available for VAX computers.

**Price:** \$350 - \$750

**Contact:** Dr. Joseph J. DiStefano III, Professor  
(213) 825-7482 or 825-4033

UNIVERSITY OF CALIFORNIA, LOS ANGELES  
School of Engineering and Applied Science  
Biocybernetics Laboratory, 4731K Boelter Hall  
Los Angeles, CA 90024

### **RUCAPS (Really Universal Computer-Aided Production System)**

**PDP-11 Operating System:** RSX

**Keywords:** • Architecture • CAD/CAM • Construction  
• Graphics

This 3-D data base drafting system for architectural, construction, and HVAC industries permits a prototype of any building or plant to be assembled in the computer. The system provides 100% consistent production information in drawings, bills of materials, and specifications. Plus, RUCAPS can generate full 3-D visualization in hidden-line-removed form in the same model.

**Price:** £15,000 - £60,000

**Contact:** Murray Pearson  
4427 5481

GMW COMPUTERS LTD.  
Castle Mill, Lower Kings Road  
Berkhamsted, Herts HP4 2AD England

### **S220 CANSCAN**

**PDP-11 Operating System:** RT-11

**Keywords:** • Instrumentation • Nuclear • Scientific

CANSCAN is a set of BASIC programs for use in analyzing low-density waste containing  $^{235}\text{U}$  and/or  $^{235}\text{Pu}$ . Typical waste containers are



55-gallon drums and 5-gallon cans. Routines provide quantitative analysis, correction for density variations, and utility routines.

**Price:** \$5000

**Contact:** David Martancik  
(203) 238-2351

CANBERRA INDUSTRIES, INC.

One State Street  
Meriden, CT 06450

### **S235/S535 GAMMA-M**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Instrumentation • Nuclear • Scientific

This software package performs rapid and accurate analysis of gamma spectra obtained with sodium (NaI) scintillation detectors. Routines are included for calibrating the system, searching for peaks, determining net areas, resolving multiplets, identifying nuclides, and calculating specific activities and minimum detectable activities.

The analytical approach that was developed for the ABACOS Body Burden software is used in the GAMMA-M package, which is written in FORTRAN. However, the nuclide libraries and the input/output orientation are toward general laboratory spectroscopy rather than toward a particular application.

**Price:** \$2500

**Contact:** David Martancik  
(203) 238-2351

CANBERRA INDUSTRIES, INC.

One State Street  
Meriden, CT 06450

### **S240/S540 SPECTRAN-F**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Instrumentation • Nuclear • Scientific

This set of FORTRAN programs performs sophisticated analysis of gamma-ray spectrographic data obtained from Ge(Li) or HpGe detectors. Routines are included for calibrating the system, searching for peaks, calculating peak centroids, determining net areas, resolving multiplets, identifying nuclides, and calculating specific activities, minimum detectable activities (MDA), maximum permissible concentrations (MPC), and E-bar calculations.

**Price:** \$2750

**Contact:** David Martancik  
(203) 238-2351

CANBERRA INDUSTRIES, INC.

One State Street  
Meriden, CT 06450

### **S245/S545 Quality Assurance Software**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Instrumentation • Nuclear • Quality control  
• Scientific

The Quality Assurance (QA) software package performs a calibration check of germanium (both Ge(Li) and HpGe) detectors. The software produces a quality assurance report that gives current values or current values and difference from reference values for germanium detector system gain shifts, germanium detector system resolution, and germanium detector efficiency.

**Price:** \$1275

**Contact:** David Martancik  
(203) 238-2351

CANBERRA INDUSTRIES, INC.  
One State Street  
Meriden, CT 06450

### **S541/S641 APOGEE**

**PDP-11 Operating System:** RSX

**Keywords:** • Data collection • Instrumentation • Nuclear  
• Scientific

APOGEE collects and analyzes complicated Ge(Li) and HpGe gamma spectra. Written in FORTRAN IV/VAX-11, the user-friendly, menu-driven software has been optimized for speed. Extensive help commands allow infrequent users to operate the software with minimal training. Command language operation is available for frequent users who prefer not to use the menu structure. Both immediate-mode and extensive batch-file operations are supported. Preprogrammed batch files permit job stream operation for routine laboratory applications. That feature allows tasks to be defined by system users and executed through simple commands.

Routines are included for calibrating the system, searching for peaks, calculating peak centroids, determining net areas, resolving multiplets, identifying nuclides, calculating specific activities for each unit of volume, minimum detectable activities, lower limit of activities, maximum permissible concentration, and iodine activity equivalency. The LLD calculation complies with the method defined by the U.S. Nuclear Regulatory Commission.

A version of this product is available for VAX computers.

**Price:** \$5000

**Contact:** David Martancik  
(203) 238-2351

CANBERRA INDUSTRIES, INC.  
One State Street  
Meriden, CT 06450



**5543 NAA****PDP-11 Operating System: RSX****Keywords:** • Instrumentation • Nuclear • Scientific

The Canberra Neutron Activation Software Package consists of a well-defined set of subroutines formulated for the rapid and accurate analysis of neutron activation spectra collected with germanium detectors. Both comparative and absolute methods of analysis are supported. The package is written in standard FORTRAN IV.

The software is designed in a completely modular fashion to permit adaptation to a multitude of experimental sequences. The operator can run experiments in an interactive or a completely unattended and automatic environment. Routines are included for calibrating the system, searching for peaks, calculating peak centroids, determining net areas, resolving multiplets, identifying elements, and calculating element concentration.

**Price:** \$4000**Contact:** David Martancik  
(203) 238-2351

CANBERRA INDUSTRIES, INC.  
One State Street  
Meriden, CT 06450

**SDRC® FATIGUE™****PDP-11 Operating System: RT-11****Keywords:** • Civil engineering • Mechanical engineering

This software uses predicted or measured strain data and material property information to predict product life under various conditions. That kind of fatigue information can help engineers design products that meet stringent requirements for maximum life expectancy, energy efficiency, and cost effectiveness.

FATIGUE™ is a trademark of SDRC. SDRC® is a service mark of Structural Dynamics Research Corporation.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$10,000 or \$90 - \$450/mo**Contact:** Marketing Services  
(513) 576-2400

GENERAL ELECTRIC CAE INTERNATIONAL INC.  
300 TechnCenter Drive  
Milford, OH 45150

**SDRC® MODAL-PLUS™****PDP-11 Operating System: RSX, RT-11****Keywords:** • Data collection • Mechanical engineering  
• Modeling/simulation

This interactive software package is used to collect, analyze, and display data from controlled excitation tests. In MODAL-PLUS, a physical model is vibrated by an exciter through a range of frequencies to test system dynamics. MODAL-PLUS software then creates a mathematical model of the prototype's performance. That model can be compared to an analytical model or used directly to solve noise, vibration, and failure problems.

MODAL-PLUS™ is a trademark of SDRC. SDRC® is a service mark of Structural Dynamics Research Corporation.

A version of this product is available for VAX computers.

**Price:** \$8400 - \$42,000 or \$400 - \$2000/mo

**Contact:** Marketing Services  
(513) 576-2400

GENERAL ELECTRIC CAE INTERNATIONAL INC.  
300 TechnCenter Drive  
Milford, OH 45150

### **SDRC® SABBA™**

**PDP-11 Operating System:** RT-11

**Keywords:** • Debugging • Mechanical engineering  
• Modeling/simulation

This system-dynamic analysis package is used to debug prototypes conveniently and efficiently by computer simulation. The mathematical representation of the system that SABBA creates can be analyzed to predict its natural frequencies and modes of vibration. Then, to help engineers understand the impact of changes to the product's physical properties, modifications can be made to the computer model and the impact of those changes automatically calculated in SABBA.

SABBA™ is a trademark of SDRC. SDRC® is a service mark of Structural Dynamics Research Corporation.

A version of this product is available for VAX computers.

**Price:** \$15,000 or \$675/mo

**Contact:** Marketing Services  
(513) 576-2400

GENERAL ELECTRIC CAE INTERNATIONAL INC.  
300 TechnCenter Drive  
Milford, OH 45150

### **Shaft: Stress Calculations**

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • CAD/CAM • Manufacturing • Mathematics  
• Mechanical engineering

Memory required: 64K minimum.

This design-analysis program, written in MACRO, calculates the maximum resultant stress in a shaft when a set of loads is applied, such as those normally found on shafts on gearboxes or working shafts in



machinery. The shaft can be round or tubular if there are torsional loads, such as on a gearbox or motor shaft, or square if there are no torsional loadings on the shaft.

Shaft calculates the dead-weight stresses due to the center of gravity of the shaft for steel shafts and does the resolution of complex forces into the single equivalent maximum tensile stress.

A version of this product is available for VAX computers.

**Price:** \$500 – \$15,000

**Contact:** Dean Lampman

(513) 874-4499

STARFLO ENGINEERING

4740 A Interstate Drive

Cincinnati, OH 45246

## SIZEB

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Flow analysis  
• Structural engineering

**Memory required:** 256K.

This system, written in FORTRAN, sizes either full or partially full box culverts, based on Manning's formula. Users can enter the required head in feet or PSI. Quantity can be entered in cubic feet a second or in millions of gallons a day. Manning's coefficient is entered as desired from a table of commonly used values. For full-flow conditions, the length of the line is required.

After entry of the slope, quantity of flow, ratio of height to width, and a ratio of design flow/full flow, the system generates data for a theoretical box. The user can then enter standard C789 box dimensions or other special dimensions. Haunch data can be included. The system then recomputes the hydraulic data.

Once the conduit size is determined, new flows can be entered. For each flow entered, the depth, critical depth, cross-sectional area, velocity, open surface, and wetted perimeter are printed out. System options allow users to quickly try new slopes, flows, and ratios.

**Price:** \$75

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

## SIZEE

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Flow analysis  
• Structural engineering

**Memory required:** 256K.

This system, written in FORTRAN, sizes either full or partially full horizontal elliptical pipe or vertical elliptical pipe, based on Manning's formula. Users enter the required head in feet or PSI and the required quantity in cubic feet a second or million gallons a day. Manning's coefficient can be selected from a table of commonly used values.

Elliptical pipe is formed from circular sectors. Each size of elliptical pipe is designed to have a cross-sectional area approximately equal to a standard pipe. The diameter of the circular pipe is known as the equivalent diameter.

Standard dimensional relationships are used in the system. The degree of accuracy will be adequate for most work. However, those relationships can be overridden.

After entry of the slope, flow, and ratio of design flow/full flow, the program generates data for a theoretical equivalent diameter, and data is generated for the equivalent theoretical elliptical pipe. The user can then try new slopes or request adjustment of the theoretical ellipse to standard ASTM C507.

Once the conduit size is determined, new flows can be entered. For each flow entered, the depth, the critical depth, the cross-sectional area, velocity, open surface, and wetted perimeter are printed out. System options allow users to quickly try new slopes, flow and/or ratios, and modifications to control relationships.

**Price:** \$150

**Contact:** J. Bill Wallace  
(714) 848-4405

**COMPUTAPIPE**

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

## **SIZEP**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Flow analysis  
• Structural engineering

**Memory required:** 256K.

This system, written in FORTRAN, sizes either full or partially full circular pipe, based on Manning's formula. Users enter the required head in feet or PSI and the required quantity in cubic feet a second or million gallons a day. Manning's coefficient can be selected from a table of commonly used values.

After entry of the slope, flow quantity, and ratio of design flow/full flow, the program generates data for a theoretical circular pipe. The user then selects a standard pipe size, and a new set of hydraulic data is generated for the new pipe size.

Once the conduit size is determined, new flows can be entered. For each flow entered, the depth, critical depth, cross-sectional area, velocity, open surface, and wetted perimeter are printed out. System options



allow the user to quickly try new slopes, flow and ratios, and new diameters.

**Price:** \$75

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

## SIZET

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This system, written in FORTRAN, sizes or reviews trapezoidal and rectangular canals and channels, based on Manning's formula. To size, the user enters the slope and flow and the cross-sectional characteristics (shape) desired. Side slope, maximum allowable depth, and maximum allowable width are among the options allowed.

Once the canal shape and size is determined, new flows can be entered. For each flow entered, the depth, the critical depth, the cross-sectional area, velocity, open surface, and wetted perimeter are printed out. System options allow users to try new slopes, flows, and shapes quickly.

**Price:** \$100

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

## SKYMNK Software Support

**PDP-11 Operating System:** RSX, RT-11, TSX-PLUS™

**Keywords:** • Modeling/simulation • Scientific  
• Signal processing • Software utilities

SKYMNK includes an on-line driver, a subroutine library, a software simulator, and test diagnostics. The subroutine library contains more than 70 routines that perform vector mathematics and routines for vector/scalar mathematics, conversion, clipping/bounding, vector comparison, and signal processing — for example, FFT, IFFT, and convolution/correlation.

Use of SKYMNK software and the array processor results in speed improvements of 20 to 200 times for numerically intensive applications.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$350

**Contact:** Joe Germann  
(617) 454-6200

**SKY COMPUTERS, INC.**

Foot of John Street

Lowell, MA 01852

**Span**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, computes the maximum safe spans for steel pipe, with lining coating, live loads, and internal water weights as optional input; the deflection at the center of the span; the bend radius and bend deflection angle; the moment and stress in the pipe wall; and, if the pipe is cement mortar lined, the size of lining crack in inches a foot. The program also permits users to enter trial span lengths for analysis.

**Price:** \$75

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647

**SPIPE (Circular Pipe Analysis)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Civil engineering • Flow analysis

SPIPE computes the hydraulic elements for circular pipes. Input consists of pipe size, slope, roughness coefficient, and intervals desired. Output includes flow, velocity, area of flow, depth of flow, and so on. Gravity flow is considered.

A version of this product is available for VAX computers.

**Price:** \$200

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

**Square Root Routine for Integers**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Calculation aids • Mathematics

This PDP-11 assembly subroutine takes the square root of a 16-bit integer. The result, RO, contains both the integer and the fraction portion of the root, that is, with an implicit decimal point between RO<7> and RO<6>. DECUS number 11-345.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**SSP-11 (Scientific Subroutine Package)****PDP-11 Operating System:** RSX, RT-11**Keywords:** • Mathematics • Research • Scientific  
• Statistics

This collection of more than 100 mathematical and statistical routines commonly required in scientific programming is written in FORTRAN and contains no I/O statements. Many of the larger statistical routines are provided as a collection of several smaller routines, facilitating their incorporation in larger programs requiring overlays.

Refer to SPD #15.45.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$700**Contact:** Consult your local DIGITAL sales office (see Introduction).**STAT-11: Statistical Package****PDP-11 Operating System:** RSTS**Keywords:** • Statistics

Memory required: 16K user space.

The manual for this easy-to-use package informs the user how to perform statistical analyses with STAT-11 and includes STAT-11 program examples.

The STAT-11 program and manual use the following conventions:

- Information typed in by the user at the keyboard has been underlined to differentiate the information from computer output.
- An asterisk (\*) denotes multiplication, and an upward-pointing arrow (↑) denotes exponentiation in arithmetic expressions.
- A percent sign (%) before a number in STAT-11 output indicates only that the number has exceeded the normal output format in length. The value of the number is still correct.

DECUS number 11-271.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**STI-ANIMATION****PDP-11 Operating System:** RSX**Keywords:** • Decision support • Graphics  
• Pre- and postprocessors

STI-ANIMATION allows for experimental or theoretical-mode shapes to be "action" animated. This postprocessing capability is useful in engineers' assessments of dynamic situations.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$4000**Contact:** Peggy A. Welik  
(408) 253-5800

SYNERGISTIC TECHNOLOGY INC.  
20065 Stevens Creek Boulevard  
Cupertino, CA 95014

### STI-MATVAM

**PDP-11 Operating System:** RSX

**Keywords:** • Aeronautics/aerospace • Mathematics  
• Mechanical engineering • Pre- and postprocessors

This matrix-manipulation utility stores each matrix in a disk file in VAMP matrix-file format. That disk storage allows the processing of matrixes of almost any size. MATVAM also translates files generated by NASTRAN to VAMP matrix-file format and produces VAMP matrix files from a VAMP modal-analysis file. That capability permits the synthesis of analytically and experimentally generated information. The program runs through on-line commands that specify the matrix files and the operation. Runstreams of those command lines can be created to perform specific analyses.

A version of this product is available for VAX computers.

**Price:** \$1000 - \$2000

**Contact:** Peggy A. Welik  
(408) 253-5800

SYNERGISTIC TECHNOLOGY INC.  
20065 Stevens Creek Boulevard  
Cupertino, CA 95014

### STONE: A Program for Resolving Mossbauer Spectra

**PDP-11 Operating System:** RT-11

**Keywords:** • Scientific • Statistics

**Memory required:** 40KB.

This program permits sophisticated Mossbauer curve fitting to be done on a very small computer. This program, an overlaid, condensed version of the larger program MOSSPEC, fits a sum of Lorentzian or Lorentzian/Gaussian combined lines to a given Mossbauer spectrum by means of the Gauss nonlinear regression procedure with a facility for constraining any set of parameters or linear combination of parameters. Results are output as a table of the fitted parameters, including the statistical values for standard deviation,  $x^2$ , and Misfit. DECUS number 11-720.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### Stress

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

**Memory required:** 256K.

This program, written in FORTRAN, determines the required size and spacing of tensile reinforcement in concrete beams and slabs or walls



with 1-way reinforcement, using the working-stress design method. Beam dimensions, cover, moment, and thrust are required input. Reinforcement can be either W-series mesh or hot rolled rod.

**Price:** \$75

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### **STRESS-11: A Structural Analysis Program**

**PDP-11 Operating System:** RSX

**Keywords:** • Calculation aids • Structural engineering

Memory required: 64KB.

STRESS-11 is an engineering application program used to analyze forces, reactions, and displacements in structural designs. The program can be used to analyze building frames, bridge trusses, transmission towers, and floor systems. STRESS-11 requires no computer programming experience. Problem descriptions use engineering terms that are familiar to a structural engineer.

To use the package, the engineer describes a structure with a 2- or 3-dimensional coordinate system. The engineer assigns a joint number and joint coordinates to each joint in the structure, and a member number and member incidence identifies which two joints the member connects. The engineer then describes the physical properties of those members, the member and joint loads to be placed on the structure, and the support conditions for the structure. With that information, the program can determine the joint displacements, joint reactions, and forces for the structure. DECUS number 11-613.

Note: Source code may require patching to run on versions other than RSX-11M V3.2. Release notes are shipped with each order.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **STRESS (Structural Engineering Solver)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Civil engineering • Structural engineering

STRESS performs linear elastic analysis of statically loaded structures composed of prismatic members. STRESS solves for forces, reactions, and displacements, using the matrix stiffness method. The maximum structure size is 125 members and 250 joints.

A version of this product is available for VAX computers.

**Price:** \$550 - \$850

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

## TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

**Structural Member Analysis Programs****PDP-11 Operating System: RSX****Keywords:** • Aeronautics/aerospace • CAD/CAM

• Mechanical engineering • Structural engineering

These general analysis FORTRAN programs for classical structural members with arbitrary mechanical or thermal loading are small, portable, efficient, and easy to use. The members can be of variable cross-section with any in-span supports, foundations, and boundary conditions. Composite cross-sections can be handled. The member can be modeled with either continuous or lumped mass. Static and steady-state displacements and forces, natural frequencies and mode shapes, and buckling loads are calculated. Pre- and postprocessors permitting interactive use of the programs are available. All the programs can be used in batch or interactive form with fixed, free, or prompted input formats.

- Beams: Deflection, slope, bending moment, shear force, buckling loads, frequencies, and mode shapes; can include bending, shear deformation, and rotary inertia effects
- Torsional systems: Angle of twist, twisting moment, and frequencies of shaft system
- Extension systems: Axial displacement, force, and natural frequencies
- Thick cylinder: Radial displacement, radial stress, tangential stress, and frequencies
- Torsion of thin-walled beams: Angles of twist, bimoments, warping shear, internal twisting, moments, unstable loads, and natural frequencies
- Sectional properties: Cross-sectional properties of a bar of any shape
- Stress analysis: The normal and shear stresses on the cross-section of a bar of any cross-sectional shape; the stresses include bending stresses, shear stress due to torsion and warping, shear stresses due to transverse loads, and normal stresses due to warping
- Rotating shafts: For a shaft with unbalance forces, calculation of the displacements, internal forces, and bearing forces; the critical speeds are found for damped or undamped shaft systems
- Circular plate: Deflection, slope, radial moment, shear transverse moment, twisting moments, and frequencies
- Rectangular plate: Static, steady state, stability, and free vibration
- Gridworks: Uniform grillages subjected to uniform, hydrostatic, and concentrated forces
- Disks: Radial displacement, radial force, tangential force, and frequencies

A version of this product is available for VAX computers.



**Price:** Available upon request

**Contact:** W. D. Pilkey  
(804) 296-4906

STRUCTURAL MEMBERS USERS GROUP  
P.O. Box 3958, University Station  
Charlottesville, VA 22903

### **SURVEY: Data Reduction and Plotting for Surveyor's Field Data**

**PDP-11 Operating System:** RSTS

**Keywords:** • Civil engineering • Geoscience • Graphics  
• Mapping

This BASIC-PLUS program reduces land survey field data to cartesian coordinates, including elevations. Data entry is very flexible, with user-friendly prompting. Point location can be by any valid combination of two measured distances or angles from one or two previously located points. Angles (in degrees or degrees/minutes/seconds) are measured from a compass direction or from the direction of any line segment. Rotations and corrections due to closure errors can be made automatically. Storage of coordinate values is maintained in a disk data file for easy updating.

Output includes distances, headings, elevation angles and distances, included angles, enclosed area, and a plot with numbered points. Plotted points can be joined by straight lines or circular arcs. Linear interpolation of elevations between points can also be plotted.

Plotting is done with a Printronix P-300 printer/plotter. Modifications for special purposes and for other printer/plotters are available at extra cost. Documented source code is provided so that the user can make modifications as well. Although contracted product support is not available, the author will provide consultation about problems, as time permits. The program was developed in consultation with a licensed surveyor.

Prerequisites include the RSTS/E operating system, BASIC-PLUS with double-precision and trigonometric functions, 31K user memory, and a Printronix P-300 printer or equivalent. A floating-point processor is desirable for better response time.

**Price:** \$500 - \$1000

**Contact:** John Burton, Director, Computer Center  
(615) 475-9061

CARSON-NEWMAN COLLEGE  
P.O. Box 1917  
Jefferson City, TN 37760

## SVD (Singular-Value Decomposition)

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Mathematics • Modeling/simulation • Research  
• Statistics

SVD determines the singular-value decomposition of a real  $m$  by  $n$  matrix  $A$ . That includes the inverse, determinant and rank of  $A$ , if  $m = n$ , or the pseudoinverse and rank of  $A$ , if  $m \neq n$ .

This FORTRAN program comes either as a subroutine, for calling from a main program, or as a user-friendly stand-alone program, for interactive terminal use. The latter program uses free-format FORTRAN-77-type extensions for interactive I/O. Telephone demos are available.

A version of this product is available for VAX computers.

**Price:** \$250 - \$500

**Contact:** Dr. Joseph J. DiStefano III, Professor  
(213) 825-7482 or 825-4033

UNIVERSITY OF CALIFORNIA, LOS ANGELES  
School of Engineering and Applied Science  
Biocybernetics Laboratory, 4731K Boelter Hall  
Los Angeles, CA 90024

## TAPEIA

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • CAD/CAM • Manufacturing  
• Mechanical engineering

Memory required: 64K minimum.

This program reads a command file produced by the CODE program and resolves the locations of the circle commands of the size selected by the user. The drill/circle selection has two modes. The default mode, which is permanently set into the program, can be selected by the user prior to compiling. The interactive dialog asks the user how many circle sizes to search for and the diameter of those circles.

The output is a punched paper tape with a predetermined format. Multiple formats require multiple versions of this program. The tapes produced are in the standard EIA RS422 format. If an ASCII or an RS358 format is desired, the sister program TAPEAS is needed.

The TAPEIA program produces N/C drill tapes for printed circuit boards and for numerical control drills in a machine-shop environment, such as for tube sheet or bolt circles.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000

**Contact:** Dean Lampman  
(513) 874-4499



**STARFLO ENGINEERING**

4740 A Interstate Drive

Cincinnati, OH 45246

**TELEVENT/TELSET/TELDAX: Telemetry Acquisition and Reduction****PDP-11 Operating System:** RSX, RT-11**Keywords:** • Aeronautics/aerospace • Data collection  
• Device drivers/handlers • Real time

This software consists of a device driver for a high-speed data acquisition, as a minimum, to a complete user-interactive system, which includes products that set up and control telemetry equipment and automatically store data on disk or digital tape.

A version of this product is available for VAX computers.

**Price:** \$3000 – \$60,000**Contact:** Michael P. Hutchinson, Senior Systems Engineer  
(813) 371-0811

FAIRCHILD WESTON

P.O. Box 3041

Sarasota, FL 33578

**TTEST****PDP-11 Operating System:** RSX, RT-11**Keywords:** • Calculation aids • Mathematics • Statistics**Memory required:** Less than 12K.

This FORTRAN program computes the *t*-statistics to evaluate the difference between two unpaired means. The user need only provide the mean, standard deviation (or standard error), and sample size of each of the two sample populations. In addition to the *t*-value, TTEST lists degrees of freedom and the corresponding 95% 1-tailed and 2-tailed critical *t*-values. TTEST has minimal input requirements and informative output that does away with table lookup. DECUS number 11-404.

**Price:** \$5 – \$225**Contact:** DECUS (see Introduction)**UCSMP: A General Dynamic Modeling and Simulation Program****PDP-11 Operating System:** RSX**Keywords:** • Modeling/simulation

This program, written in FORTRAN, allows the user to model problems quickly in mathematical terms and to obtain solutions efficiently and economically. General areas of application include heat transfer, economics, chemistry, medicine, sales forecasting, liquid flow, and so forth. Discrete events and hybrid systems can also be modeled. FORTRAN statements and programmed functions can be used without the need for ordering the input statements. A preprocessor scans the input and orders the data for proper execution. Diagnostic messages

for syntax errors, ambiguities, undefined parameters, and so forth are provided with other useful debugging information. Output variables are plotted as they are calculated. The user can see solution progress, avoiding unnecessary computation time due to improper input data or parameters.

A double-precision version of this program is available on the VAX machines only. Single precision is available on both VAX and PDP-11 machines. Floating-point hardware is required for those programs.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Carol Kunz

(505) 266-9622

BERNE ELECTRONICS, INC.

120 Dartmouth SE

Albuquerque, NM 87106

### **UDAP (Urban Drainage Analysis Package)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Civil engineering • Flow analysis

UDAP performs hydraulic analysis of classical urban storm-water pipe systems. Input data consists of size, shape, material, inverts, time of concentration, inlet area, runoff coefficients, and so forth. The output consists of relevant input data plus flow, velocity, and hydraulic grade line from each pipe in the system. A system with up to 1000 pipes can be analyzed.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

TECHNICAL INFORMATION SYSTEMS, INC.

116 W. Plume Street

Norfolk, VA 23510

### **Ultima**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, determines the required size and spacing of tensile reinforcement in concrete beams and slabs or walls with 1-way reinforcement, using the ultimate-strength design method. Beam dimensions, cover, moment, and thrust are required input. Reinforcement can be either W-series mesh or hot rolled rod.

**Price:** \$75

**Contact:** J. Bill Wallace

(714) 848-4405



COMPUTAPIPE  
17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### USBRJT

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This system, written in FORTRAN, is a modification of the U.S. Bureau of Reclamation's program used to check concrete pipe joints, including the R4 type. More flexible than the original, USBRJT permits the revision of data as initially entered, which facilitates the investigation of new joint designs.

Data is entered in the sequence listed on the form required by the bureau. Nonapplicable items on the chart for the type of joint being investigated should be entered as 0.

**Price:** \$125

**Contact:** J. Bill Wallace  
(714) 848-4405

COMPUTAPIPE  
17610 Beach Boulevard, Suite 56  
Huntington Beach, CA 92647

### Utility Routines for a PDP-11/45 with a Floating-Point Processor

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Assemblers • Calculation aids • Mathematics  
• Software utilities

This set of routines for input/output, square root, and trigonometric and exponential functions are designed for convenient interfacing with assembly language main programs. The floating-point routines use AC0 to transmit the argument and operate in the precision of the calling program (single or double). The input/output routines are designed for flexibility. Thus, the floating-point input routine accepts both F and E format input and takes any nonnumerical character other than +, -, ., or E as a terminator. The F format output routine gives an E format output if the number is too large for the field specification.

The I/O routines are monitor-independent to provide maximum flexibility and eliminate the need to set up link blocks, file blocks, and so on. If desired, they could easily be interfaced into the DOS monitor.

Unlike most math routines, these routines use straightforward application of power series so that the user may control the precision. Timing and precision data are given as a function of the number of terms used. DECUS number 11-110.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **VAMP (Vibration Analysis and Measurement Processor)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Aeronautics/aerospace • Mechanical engineering  
• Signal processing • Structural engineering

This stand-alone, general-purpose time-series and spectrum-analysis program provides for signal analysis and structural-dynamic engineering. The modules of this system include vibration analysis, modal analysis, animation, matrix operations (MATVAM), and nth octave analysis. Additional VAMP options include signal generation and data acquisition on systems that have compatible DAC and ADC equipment. This modular system is compatible with most graphics terminals and includes full graphic display and data management.

A version of this product is available for VAX computers.

**Price:** \$6000 - \$20,000

**Contact:** Peggy A. Welik  
(408) 253-5800

SYNERGISTIC TECHNOLOGY INC.

20065 Stevens Creek Boulevard

Cupertino, CA 95014

## **VANGO**

**PDP-11 Operating System:** RSTS

**Keywords:** • CAD/CAM • Civil engineering • Graphics  
• Mapping

VANGO is an easy-to-use interactive computer-aided design and drafting system for surveying, mapping, land development, civil engineering, and geographically based information. The system provides a tool for calculation, data management, and automated drafting, beginning with the boundary survey and proceeding through each phase of the project to final drawings.

VANGO performs the tedious, error-prone calculations involved in land planning. During the design process, computer-plotted drawings can be generated to show the current project status. Drafting on a high-speed plotter ensures clearer, more accurate drawings and reduces the time required to produce them. Changes are easily accommodated, since new drawings can be plotted on demand. The data created is preserved and fully utilized in all successive steps and is maintained on line.

The VANGO Digital Terrain Model (DTM) module, fully integrated with VANGO, is a highly advanced earthwork computational system. Volumes are computer based on a cell that is typically 1/8" square at plan scale. Elevation interpolation for determining the cell elevations from the random data is performed 2-dimensionally rather than the more typical linear interpolation. Thus, accuracy of results does not depend on defining special features.



The VANGO DTM Highway module, fully integrated with the DTM Earthwork module, permits passing cross-sectional templates, each following its own alignment and profile, through the Digital Terrain Model. The templates and the side slopes can change at any station and can represent a highway, transportation corridor, channel, or rail line. Since existing terrain cross sections along the proposed route are not required, this module is ideal for studies requiring analysis of several alternative routes or several iterations of a chosen route. Profiles, daylight lines (catch points), cross sections, mass, and haul diagrams are quickly generated for each iteration of alignment and profile, enabling an optimum route to be established.

A version of this product is available for VAX computers.

**Price:** \$12,500 – \$80,000

**Contact:** Charles Oliver

(714) 660-8855

VLSYSTEMS, INC.

2691 Richter, Suite 118

Irvine, CA 92714

### **Variable-Metric Routine for Function Minimization**

**PDP-11 Operating System:** Independent

**Keywords:** • Mathematics • Programming tools • Statistics

This routine finds a local minimum of an arbitrary differential function with respect to a number of parameters. When used for least-squares fitting, it estimates the variance matrix of the parameters. DECUS number 11-432.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **WATDIS (Water Distribution System Analysis)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Civil engineering • Flow analysis

WATDIS analyzes water distribution systems. Any type of pipe system can be analyzed. Pressure or flow requirements can be specified, and any number of storage tanks, pumps, valves, meters, and fittings can be input. Pumps can be specified by useful power or by inputting head flow data from operating curves. Check valves can be used also. Flow units of CRS, GPM, MGD, or SI are acceptable. Output includes pressures, elevations, and grade lines at all junctions; head losses in lines and at all valves; and pump heads, flow rates, and flow velocities. WATDIS is limited to 175 pipes for the PDP-11.

WATDIS is the PDP-11 and VAX-11 conversion of the University of Kentucky water distribution analysis software.

A version of this product is available for VAX computers.

**Price:** \$1200 – \$1400

**Contact:** Sales Representative

(800) 368-4203 or (in VA) (804) 622-1755

**TECHNICAL INFORMATION SYSTEMS, INC.**

116 W. Plume Street

Norfolk, VA 23510

**Wood Beam Check**

**PDP-11 Operating System:** RSTS, RT-11, TSX-PLUS™

**Keywords:** • Architecture • Civil engineering • Government  
• Materials handling

This analysis program verifies the design techniques of wood structures, allows superimposition of multiple vertical forces — point loads, uniform loads, and increasing/decreasing loads — on wood structures for load analysis, verifies a designed structure and reports compliance with the uniform-building code, and transfers resultant forces into a uniform distributed load for transfer to the next phase of the analysis. Printed reports are available at each solution point within the program.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$2100 – \$10,000

**Contact:** Michael D. Dahmer, P.E.

(208) 324-3187

SYSTEMS ASSOCIATES, INC.

573 Glacier

Jerome, ID 83338

**WTCOAT**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Civil engineering • Structural engineering

Memory required: 256K.

This program, written in FORTRAN, designs the thickness of weight coat required on a pipe to produce a selected amount of negative buoyancy in either fresh or salt water. The program also enables users to enter any other specific gravity and permits the design of river weights and spacing.

**Price:** \$100

**Contact:** J. Bill Wallace

(714) 848-4405

COMPUTAPIPE

17610 Beach Boulevard, Suite 56

Huntington Beach, CA 92647



## Facilities Management



Gary Wolinsky/Stock, Boston

### **ABC/MM (Maintenance Management System)**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**Keywords:** • Planning aids • Property maintenance  
• Scheduling

This package automates most of the clerical and planning work of maintenance in manufacturing, processing, utility and industrial plants, institutions, hospitals, schools, and maintenance and repair businesses. ABC/MM consists of a data base and eight modules:

- Maintenance Labor processes daily time cards to report job progress, time, and cost for maintenance accounting and provides data needed for payroll.
- Work-Order Backlog provides a systematic review of job priorities and work-load backlog, scheduling weekly work according to each labor craft availability.
- Planning Aids computes net capacity, backlog by craft, and time-slot averages on a moving-averages basis.
- Work-Order Activity provides a daily activity report, weekly performance report, and a weekly and monthly work-order review.
- Monthly Budget Report provides financial information.
- Equipment History Record provides data and a spare-parts list for each piece of equipment and is updated with maintenance history.
- The Stores Catalog shows the availability and cost of maintenance material and parts. Material requisitions for maintenance work are costed and charged against the work order and deducted from inventory.
- Preventive Maintenance issues work orders weekly, reports overdue inspections and follow-up, and controls generated repair work orders.

A version of this product is available for VAX computers.

**Price:** \$11,000 - \$59,000

**Contact:** V. W. Ruskin  
(604) 682-3808

ABC MANAGEMENT SYSTEMS INC.  
805 Dupont Street, Suite 3  
Bellingham, WA 98225

### **ABC/PM Preventive Maintenance System**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**Keywords:** • Property maintenance • Scheduling

ABC/PM, written in COBOL, provides preventive-maintenance management in manufacturing processing, utility and industrial plants, oil and gas, public works, hospitals, schools, and service and repair shops. The system's eight ANSI COBOL programs require a maximum of 64K and run on all major mainframes, minis, micros, or remote time-share systems. ABC schedules PM tasks and when and what to inspect and automatically follows up overdue PM inspections. PM work orders give detailed instructions, including department, cost center, location,



and space for actual values. Overdue PM inspections are tracked and listed by the number of weeks overdue and by department. PM inspection summary shows management which inspections were missed and which resulted in repair work orders. Training seminars for maintenance supervisors and personnel are available and sponsored by SME (Society of Manufacturing Engineers) and various universities.

A version of this product is available for VAX computers.

**Price:** \$15,000

**Contact:** V. W. Ruskin  
(604) 682-3808

ABC MANAGEMENT SYSTEMS INC.  
805 Dupont Street, Suite 3  
Bellingham, WA 98225

### **AnaTOLL**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Accounting • Telecommunications

Corporate and telecommunications management can use AnaTOLL, written in BASIC, to monitor and control telephone costs and to optimize network configurations. AnaTOLL allows a VAX or a PDP-11 to accept call records from most commercially available PABXs, using an asynchronous RS-232 port. The call record is evaluated, rated, and then stored for future on-line and month-end batch processing.

In addition to numerous on-line reporting and system maintenance functions, AnaTOLL produces department/extension, department/extension usage summary, company usage summary, activity by area code, NPA/NN4, and trunk utilization reports.

A version of this product is available for VAX computers.

**Price:** \$3500 - \$5000

**Contact:** Richard Murray  
(514) 649-6128

UBICOM INC.

425, boulevard de Maisonneuve West, Suite 1610  
Montreal, Quebec H3A 3G5 Canada

### **Athena Distributed Control System**

**PDP-11 Operating System:** RSX

**Keywords:** • Engineering • Environmental • Manufacturing  
• Process control

This software system for data acquisition, alarming, control, and user-defined batch and continuous-process control contains user-friendly menu-driven graphics (black and white or color) with schematic, real-time displays of data, light-pen input, and user-defined slides. The system uses distributed intelligence in gathering field data, with fail-over protection. Athena is a general-purpose distributed-processing and

control system for large-scale applications, such as energy and facilities management, supervisory control and data acquisition, power or water distribution systems, and slow-process control.

**Price:** \$18,000 – \$30,000

**Contact:** Carl Luhman  
(619) 270-4552

CENTAURUS SOFTWARE, INC.

4425 Cass Street, Suite A

San Diego, CA 92109

### **Building/Energy Management System (Kernel) — System 600**

**PDP-11 Operating System:** RSX

**Keywords:** • Data collection • Electrical • Energy

This RSX-11M program is a group of tasks that provide monitoring, control, and man/machine interface requirements of a building automation system. Included are all data base, communication, MMI, graphics, and data manipulation tasks necessary to provide supervisory control of building electrical and HVAC functions. Also included are tasks to accomplish various energy and building management functions, using data acquisition hardware manufactured by MCC Powers.

**Price:** \$33,000

**Contact:** Larry Hunt, Manager, Sales Support  
(312) 272-9555

MCC POWERS

2942 MacArthur Boulevard

Northbrook, IL 60062

### **CMMS (Comprehensive Maintenance Management System)**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Environmental • Materials handling  
• Process control • Property maintenance

This stand-alone system can be interfaced to run with any EMCS system and allows easy addition, deletion, modification, display, and summary operations. The system keeps track of work requests that are outstanding, forecasts what is coming up in whatever time period the operator requests, and stores completed work orders in a file for historical analysis.

A version of this product is available for VAX computers.

**Price:** \$4500 – \$6500

**Contact:** Carl Luhman  
(619) 270-4552

CENTAURUS SOFTWARE, INC.

4425 Cass Street, Suite A

San Diego, CA 92109



**Duty Cycling — System 600****PDP-11 Operating System:** RSX**Keywords:** • Electrical • Energy

This RSX-11M package is designed to run with the MCC Powers System 600 Kernel software to monitor and control run time of a building's mechanical and electrical devices, cycling such devices to reduce energy use while maintaining temperature conditions in the building.

**Price:** \$2000

**Contact:** Larry Hunt, Manager, Sales Support  
(312) 272-9555

MCC POWERS

2942 MacArthur Boulevard  
Northbrook, IL 60062

**Fixed-Asset Control****PDP-11 Operating System:** RSTS**Keywords:** • Bar coding • Fixed assets • Inventory

This system, written in BASIC-PLUS, uses bar-coded labels and a portable bar-code reader. The labels will withstand grease, oil, and heat.

Inventory of the fixed asset is taken by using the portable reader. The information is transmitted to the computer directly or through phone lines. An exception report of moved or missing equipment is produced that saves inventory-taking time by 78%, eliminates long printouts, and eliminates expensive key entry.

Users include companies with a large number of desks and typewriters, manufacturers, hospitals, and colleges and universities. Biomedical clinics are using the labels on equipment subject to the sterilization process.

A version of this product is available for VAX computers.

**Price:** \$3000 – \$11,000

**Contact:** Mel J. Endelman  
(604) 926-7222

BAR CODE APPLICATIONS INC.

1609 Broadway, Suite A  
Bellingham, WA 98225

**FMS (Facility Management System)****PDP-11 Operating System:** RSTS, RSX, RT-11**Keywords:** • Inventory • Project management

• Property maintenance • Property management

The comprehensive FMS package, written in Level II COBOL, covers maintenance management functions. FMS is menu driven, user friendly, interactive, and designed for mainframes, minis, and

microcomputers. FMS consists of seven modules that can be purchased individually:

- EMS is an equipment management information and work order scheduling and control system that supports PM, repairs, and predictive and condition-based maintenance. EMS accepts equipment inventories, maintenance histories, and reports.
- WMS is a building and grounds work order scheduling and control system (space utilization). WMS accommodates descriptive data, maintenance histories, and reports.
- INV is a material/parts scheduling, control, and reporting system emphasizing inventory, reorders, part status, and transaction history (issues, receipts, returns, and so on). INV accommodates stocked and nonstocked items and permits interface to an existing purchasing system.
- TAS is an employee time card and labor costing program that provides labor and charges to other programs. TAS permits an interface to the existing payroll system.
- PMS is a project management system consisting of a work breakdown structure, task dependencies, project estimating and scheduling, cost control, and reporting functions.
- B&A is a budget and accounting system providing managers with information about requested, authorized, committed, and expended funds.
- SWORD is a powerful, swift, on-line report developer that allows the user to design reports for any of the FMS data bases.

A version of this product is available for VAX computers.

**Price:** \$5000 – \$180,000

**Contact:** Richard A. Sherman  
(703) 931-8090

PLANNED MAINTENANCE SYSTEMS, INC.  
5707 Seminary Road  
Falls Church, VA 22041

### **MAINSY-IMPRS Preventive Maintenance System**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Cost accounting • Property maintenance  
• Scheduling

MAINSY-IMPRS schedules preventive maintenance and maintains complete historical summary information. Any type of maintenance schedule can be set up — on a daily, weekly, monthly, quarterly, semi-annual, or annual basis. Schedules can be selected for printing by frequency, by cutoff date, or by PM number. Summary schedules or the full schedule (with text) can be printed.

The system has complete data verification and on-line validation capabilities. Job costing information is applied through on-line time card entry. A full year's PM historical information is kept on line. Instant access is available to all master files for selective reporting.



A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Forrest E. Weddle  
(913) 782-8544

RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **Maintenance Management — System 600**

**PDP-11 Operating System:** RSX

**Keywords:** • Inventory • Property maintenance  
• Property management • Scheduling

This comprehensive RSX-11M software package is available either as a stand-alone system or as an application routine for the MCC Powers System 600 Building Management System. The package automatically schedules and generates work orders, tracks historical information on maintenance performed, controls inventory, and provides a comprehensive set of reports to help the user manage the maintenance function more efficiently.

This system is designed to enable building managers and owners to schedule maintenance. The system also allows them to keep records of labor and material used and an inventory of maintenance parts and supplies.

**Price:** \$25,000

**Contact:** Larry Hunt, Manager, Sales Support  
(312) 272-9555

MCC POWERS  
2942 MacArthur Boulevard  
Northbrook, IL 60062

### **Peak Demand Limiting — System 600**

**PDP-11 Operating System:** RSX

**Keywords:** • Electrical • Energy

This RSX-11M package is designed to run with the MCC Powers System 600 Kernel software to monitor and control electrical-demand charges and to minimize electrical utility charges.

**Price:** \$8000

**Contact:** Larry Hunt, Manager, Sales Support  
(312) 272-9555

MCC POWERS  
2942 MacArthur Boulevard  
Northbrook, IL 60062

### **PMIS (Plant Management Information System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Inventory • Property maintenance  
• Purchasing

This adaptable interactive system provides operating and management information to effectively manage, maintain, and operate an industrial plant consisting of repairable assets.

PMIS provides:

- Plant asset and equipment management incorporating a multilevel bill of material, parts lists, and where-used lists; performance monitoring; unlimited technical description; and summary and detailed technical maintenance history.
- Work planning, forecasting, and scheduling of trade, materials, and plant for planned repair, preventive maintenance, project, and miscellaneous work.
- Materials management, including requisitions, purchases, receipts, issues and materials reservation for spare parts stores, and general inventory or work order stores. Free issue, tools, and employee stores are accommodated.
- Automatic cost distribution and reporting by account, asset, equipment and work order of maintenance labor, stores materials, and purchased goods and labor.

PMIS is available as a turnkey system consisting of operating system software, application software, installation, training and documentation, ongoing system support, and computer hardware. PMIS is available in BASIC-PLUS-2 for the PDP-11 and in VAX-11 BASIC.

A license to run PMIS software may also be purchased. That option includes application software, installation, training, and documentation.

A version of this product is available for VAX computers.

**Price:** \$20,000 – \$120,000

**Contact:** Donald J. Kawaja  
(416) 596-6944

G. K. FLEMING AND ASSOCIATES LTD.

156 Front Street West

Toronto, Ontario M5J 2L6 Canada

### **PMST (Preventive Maintenance Scheduling and Tracking System)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Property maintenance • Scheduling

This system tool for ensuring that preventive maintenance is scheduled for many pieces of equipment also provides status reports of scheduled preventive maintenance and documentation of completed preventive maintenance. The system also supports many other useful functions. The companion Repair History Tracking software provides for printing repair work orders and listing completed and outstanding work orders.

A version of this product is available for VAX computers.



**Price:** \$4000 – \$7000

**Contact:** Ralph M. Flanders, President  
(615) 966-6832

CUSTOM COMPUTER SOFTWARE, INC.  
1108 Woodshire Drive  
Knoxville, TN 37922

## **ROMIS™ (Rotating Machinery Information System) Large Host**

**PDP-11 Operating System:** RSX

**Keywords:** • Decision support • Instrumentation  
• Property maintenance

This system, in conjunction with the Smart Monitor,<sup>®</sup> provides machine-vibration information for plant operations personnel, plant engineers, and machinery specialists. The system features a high-performance central processing unit, large storage media, and 22-bit central memory addressing for multitasking operations. High-quality color graphics, hard-copy data, and graphics output are standard features of the Smart Monitor software. The following Smart Monitor modules are written in MACRO-11 and FORTRAN-77:

- The Plant Operator's module gives operations personnel static, on-line information needed to determine whether machinery is operating within normal operating parameters and to keep the plant running safely and efficiently. That information includes trends, bar graphs, alarm indication, a sequence-of-events log, reports, current values, train block diagrams, a set-up list configuration, comments, and graphic data listings.
- The Maintenance Engineer's module provides steady-state dynamic information that enables maintenance engineers to determine how long a machine can operate in its present condition, what is mechanically wrong with the machine, and when down time should be scheduled. That information is presented in orbit, spectrum, and time base formats.
- The Machinery Specialist's module provides transient dynamic information, taken during startup and shutdown, that is required to prevent serious machinery problems. That information is presented in polar, cascade, and bode formats.

**Price:** \$33,000 – \$75,000

**Contact:** Applied Engineering  
(702) 782-3611 ext. 9428  
BENTLY NEVADA CORP.  
P.O. Box 157  
Minden, NV 89423

### **Start/Stop Time Optimization — System 600**

**PDP-11 Operating System:** RSX

**Keywords:** • Electrical • Energy • Scheduling

This RSX-11M package is designed to run in conjunction with the MCC Powers System 600 Kernel software to adjust the daily start and stop schedules of major mechanical equipment in buildings and to compensate for changes in internal and external building loads.

**Price:** \$5000

**Contact:** Larry Hunt, Manager, Sales Support

(312) 272-9555

**MCC POWERS**

2942 MacArthur Boulevard

Northbrook, IL 60062

### **Triton™ Security System**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Security

This system, developed by Receptors, provides access control, point monitoring and control, CCTV control, life safety, fire monitoring, and energy management. Triton can act as a stand alone or, for multiple facilities with central control, be networked into a larger system.

**Price:** \$15,000 — \$500,000

**Contact:** Dale Williams

(801) 375-2434

**EYRING RESEARCH INSTITUTE INC.**

1455 West 820 North

Provo, UT 84601



## File Management



Dave Schaefer/The Picture Cube

**ACCES Network File Management Service****PDP-11 Operating System:** RSX, ULTRIX-11**Keywords:** • Data conversion • File transfer • Networking

This comprehensive network FMS utility provides a full complement of file transfer, file access, and file maintenance services. Users can view the collective file systems of individual hosts on a network as a truly distributed file system. Through standardized interfaces, interactive or run time, complete files, individual records, or blocks can be deleted or moved. The data is automatically placed into the correct format according to the user's specifications. Directories can be created, deleted, or listed.

In addition, FMS defines and maintains at the network level a comprehensive set of file attributes for every file transferred. As a result, files moving between hosts supporting different attributes can be reconstructed without the loss of critical information. File reconstruction also occurs during file transfer.

ACCES FMS is based on the OSI Reference Model and requires a Courier presentation-layer protocol interface. The interface is provided by products such as ACC's ACCES Network Protocol Package.

The price is for binary; source is available.

A version of this product is available for VAX computers.

**Price:** \$1000**Contact:** ACC

(805) 963-9431

ACC

720 Santa Barbara Street

Santa Barbara, CA 93101

**ADIOM (Analog Digital Input/Output Modules)****PDP-11 Operating System:** RSX, RT-11**Keywords:** • A/D, D/A • Device drivers/handlers  
• Disk utilities • File transfer

ADIOM provides a FORTRAN-callable interface to control data input or output devices, such as analog-to-digital converters, digital-to-analog converters, and digital devices. The package provides the flexibility of a conventional subroutine library, while allowing direct control of the hardware device and maintaining high performance. Features of ADIOM include FORTRAN-callable routines to control I/O device and disk, high-speed snapshot single-buffer input, high-speed continuous double-buffer transfers to memory or disk file, and disk-support routines oriented toward high-speed continuous data transfers.

ADIOM is supplemented by disk-handling routines that allow data to be output or input to or from a disk file. Those routines allow high-speed continuous transfers between disk and analog inputs or outputs.



Typical performance on a PDP-11/23+ with a standard DIGITAL RL02 disk drive running under RSX-11M is more than 90,000 16-bit samples/second continuously, with no loss of data on disk.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Jim Marshall or Chris Evans  
(0329) 232658

PROSIG COMPUTER CONSULTANTS LTD.

Link House, High Street

Fareham, Hants PO16 7BQ England

## Alphabetical Directory Sort

**PDP-11 Operating System:** RSX

**Keywords:** • Disk utilities • Information management

This program gives a directory listing in alphabetical order. With many files to report, the user will have to wait, because DIR is slow. The user can put a message in DIR.CMD.

The program sorts not more than 500 first files. DECUS number 11-718.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## APL-11 V1.0 for RT-11, Plus Other Software

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Programming tools • Software utilities

Memory required: 56KB.

This collection of unrelated programs includes:

- A very fast tape backup and restore system written in DECUS C. Backup tape is blocked at 10KB a block and has its own directory. Files can be selectively backed up or restored. Tape writes are double buffered. SAV files are included in the distribution.
- Programs to read IBM and other foreign tapes, using RT-11 V4 SYSLIB in FORTRAN and C with SAV files included.
- APL-11 V1, considered more reliable than APL-11 V2. SAV files only are included. Sources are not available.
- APL utilities with file handling, fancy character bar graphs, print formatting aids, and counting type computation functions. Multiple linear regression can use either workspace variables or files for data.
- FORTRAN/C file-handling filter programs to set up APL files and to match records from two input files on a key field. SAV files are included.
- FORTRAN subroutines to handle TSX-PLUS shared files with random-access fixed-length records. Buffering and locking/unlocking blocks are automatic. Records can span blocks.

DECUS number 11-631.

**Restrictions:** Shared file routines use TSXLIB (DECUS number 11-490), which is not included with this package. The sources for APL-11 V1 are not included.

**Associated documentation:** For APL-11 documentation, order the APL-11 V1 RSTS/E DIGITAL manual (AA-5076A-TC) from your DIGITAL sales representative.

**Note:** The diskettes (KB) contain a subset (the last four items); the tape contains all the items.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **ARK — Magtape Archival and Backup Utility**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Device drivers/handlers • Disk utilities  
• Software utilities

ARK features high-speed operation and very high tape capacity. ARK can be used interactively or with command files to perform full, incremental, or file-specific backup and restore operations on files from any or all RT-11 file-structured devices on your system — wildcards are supported in both device and file names.

ARK is compatible with any 9-track or cartridge tape drive that is interfaced to a standard magtape handler — MM, MS, or MT in either hardware or file-structured version. ARK uses disk caches and double buffering to operate effectively with streaming tape drives.

ARK tapes are written with very low formatting overhead and can put in excess of 70,000 blocks of file data, regardless of the individual file sizes, on a 2400-foot 1600 bpi 9-track tape.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$750

**Contact:** Shal Farley, President  
(818) 351-5493

CHESHIRE ENGINEERING CORP.  
650 Sierra Madre Villa, Suite 201  
Pasadena, CA 91107

### **BACK/REST**

**PDP-11 Operating System:** Independent, RT-11

**Keywords:** • Disk utilities • File transfer • Software utilities

Minimum memory required: 20K.

This file-oriented backup and restore utility program, written in MACRO-11, is for RT-11 and TSX-PLUS operating systems. Backups can be made to one or more volumes (disk packs or diskettes) of removable media disk storage or to magnetic tape, including streamers and cartridge systems.



Traditional backup/restore utilities are device oriented; the smallest unit of information that can be saved or restored is an entire device. BACK/REST, however, works with individual files. Backups are faster and require fewer output volumes because unused disk space is never copied, and noncritical datalike swap files can be omitted. Files can be recovered individually from a backup without impacting unrelated files on the target device.

BACK/REST is normally controlled by an interactive user dialog, but routine functions can be predefined and executed as a command file. File selection criteria, including full wildcard support and creation date checks, can be used to include or exclude files from any operation.

BACK/REST runs on all PDP-11 and LSI-11 systems, MicroPDP-11s, and Professional Series personal computers and works with all disk and tape devices supported by RT-11.

**Price:** \$595

**Contact:** Jack J. Peterson  
(804) 740-9244

HORIZON DATA SYSTEMS  
1901 Wildflower Terrace  
Richmond, VA 23233

## BACKUP

**PDP-11 Operating System:** RT-11

**Keywords:** • Software utilities

Memory required: 16K.

This utility creates backup copies of specified files. Those copies can be targeted to another disk device and are assigned extensions of .BA1, .BA2, and so on, so that several generations of a file may be saved. DECUS number 11-371.

Note: Documentation includes operating instructions.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## BACKUP

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities • File transfer • Software utilities

The RX01 distribution diskette contains a run-time (.SAV) version of BACKUP. That utility is used to copy and verify programs and files between random-access devices. BACKUP is entirely memory resident, allowing direct copies between disks without the presence of a system disk. The automatic verify feature ensures total data integrity throughout the operation. Those features are particularly useful in diskette-based systems.

The BACKUP program is fully prompting and provides complete run-time and error-message facilities for user information. BACKUP accepts file-designation strings in standard RT-11 format

(DEV:FILE.EXT). Wildcards are permitted throughout the file-designation string.

BACKUP was written in MACRO-11 assembly language code on a PDP-11/03 with diskette drive and running the RT-11 Version 3 operating system. BACKUP was created as an alternative to the Version 2 PIP utility and the Version 3 COPY utility.

**Price:** \$100

**Contact:** Jeffrey Katz

(617) 994-5370

WHALING CITY SOFTWARE

P.O. Box D-22

New Bedford, MA 02742

### **BRUCE (Backup and Restore Utility with Consolidation and Enhancement)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Diagnostics • Disk utilities • File transfer

BRUCE copies all the files from a disk onto another (scratch) disk or tape of equal or larger capacity. The files appear on the output device in EXT, FILNAM sorted order. If no errors occur, BRUCE initializes the input disk and copies the files back. The result is a "squeezed" (consolidated) disk with the .SYS files adjacent (hence the performance enhancement) and with an unsorted directory. DECUS number 11-684.

Restrictions: BRUCE cannot restructure the current system disk (SY:), but the backup phase is still applicable. BRUCE also requires some space on SY: for its work files, and the output volume must already be initialized.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **BUPRES: A Program that Reads Individual Files from a Backup/Device Magtape**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • File transfer

Memory required: 22KB.

This FORTRAN IV program reads individual files from a magnetic tape created by the RT-11 Version 5 BACKUP/DEVICE command. The program prompts the user for all answers. The program does not check for existing files by the same name and does not protect restored files that were originally protected. The program supports only single-volume tapes. DECUS number 11-710.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**Complete File Sort Utility****PDP-11 Operating System:** RT-11**Keywords:** • Disk utilities • Programming tools**Memory required:** 16KW.

This program performs a multiple key sort of a data file in either alphabetical or ASCII order. The sort is accomplished through a Tag Array built with the specified sort fields and block and record addresses. A Shell Sort puts the Tag Array in ascending or descending order. The sorted data is written to a file and, optionally, printed on the terminal.

A maximum of 16 sort fields is allowed. The maximum record length is 2046 bytes. Records must be separated by a /CR/LF.

This version contains replacement of redundant code with subroutines, improved decimal/ASCII conversion, and run-time memory allocations. Those revisions result in a 30% increase in the maximum number of sorted records and reduction of the SAV image from 60 blocks to 6. DECUS number 11-444.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**CON: A Program to Make a File Contiguous on a Files-11 Disk****PDP-11 Operating System:** RSX**Keywords:** • Disk utilities • Mapping**Memory required:** 6.2KW.

If a disk does not have enough free contiguous space for a task or another file, the program CON can help the user. CON scans the maps of the logically noncontiguous files on the disk. If CON finds a retrieval pointer of a contiguous space not smaller than the given file, the program exchanges the appropriate blocks of the two files. Then the file maps are modified, and the program sets the flag UC.CON in the header of the input file. The only fatal error return is "No such large contiguous space in the maps." DECUS number 11-557.

**Restrictions:** The capacity of the disk should be less than 32 MB; the file size cannot be more than 256 blocks.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**COPSY****PDP-11 Operating System:** RT-11**Keywords:** • Disk utilities • File transfer**Memory required:** 8, 16, or 32K.

This program reproduces an RX01 from drive 0 to drive 1. The size of the program can be adjusted easily. DECUS number 11-434.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)

**CPMRSX: CP/M® to DIGITAL Disk Translator for RSX-11M**

**PDP-11 Operating System:** RSX

**Keywords:** • Data conversion • Disk utilities • File transfer  
• Translators

**Memory required:** 19KW.

This program allows a PDP-11 to handle 8" CP/M-formatted disks. The program uses a menu to allow viewing or printing the directory and copying files from the CP/M disk to Files-11 volumes. In the binary copy mode, the entire file is copied. In the ASCII copy mode, the EOF is detected and a format conversion done. For the user with many files to translate, the program provides a wildcard option or a loop to copy all files from the CP/M disk. DECUS number 11-615.

CP/M® is a registered trademark of Digital Research, Inc.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

**CRAFT (Copperweld Robotics ASCII Format Translator)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • File transfer • Microprocessor development  
• Robotics

**Memory required:** 15K bytes.

CRAFT takes formatted ASCII files and translates them into binary files that may be specified as input to DIGITAL's PB-11 software. Thus, EPROMs for microprocessor-based systems may be programmed. The ASCII files may be in the standard Tektronix, Intel, Motorola, or Mostek object code formats. The binary output file is ready for sequential-mode EPROM programming. DECUS number 11-564.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

**CTS-300 ISAM FCG Utilities**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Printing • Software utilities

**Memory required:** FCGUTL, 8KB; ISMCNT, 14KB (in XMTSD).

FCGUTL.TSD lists the ISAM File Control Group (FCG) and optionally changes the internal file name (as stored in the FCG), the record count, or the device for any of the data files. Another option generates a line printer listing of what has been compactly displayed on the terminal screen. To allow the periodic listing of the status of all ISAM files, FCGUTL.SAV is coded to operate in an indirect command file and to default to the print option.

To provide for recovery from the ISMUTL error "MORE INPUT RECORDS THAN SPECIFIED" without requiring the file to be recreated, ISMCNT.TSD does a sequential read through an ISAM file to determine the number of records in the file. ISMCNT.TSD informs you if the count disagrees with the FCG record count and asks if you wish to



correct it. If the response is yes, ISMCNT.TSD chains to FCGUTL.TSD and automatically changes the record count. DECUS number 11-618.

**Note:** FCGUTL is provided with the complete source (only DIGITAL subroutines are used). ISMCNT uses some in-house subroutines for which the source code is not provided, because the subroutines are not essential (other code could be substituted).

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DACSORT: FORTRAN-Callable Subroutine**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities

Memory required: 464 bytes.

DACSORT, a compact subroutine callable by FORTRAN and other types of programs, uses the Hart-Woodrum merging algorithm to sort records, with sorting on any user-definable function of the record, in ascending or descending order. That includes standard alphabetical and numerical fields, as well as any other ordinal characteristic, such as record length. The number of record comparisons is approximately  $N \log N$ , where  $N$  is the number of records. The speed is comparable to that of QSORTA (DECUS number 11-298). DECUS number 11-644.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DBSMNG: Small Data Base Management Package Binary Kit**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Data base management • Menu handlers  
• Query facilities • Report writer

Memory required: 20KB.

This package was developed from a set of modules used to facilitate file I/O and complex data manipulation. As the number of modules in the package expanded, management routines were added to combine the modules into programs to perform commonly used functions — especially those needed to create, maintain, and exploit small data bases of approximately 4000 records.

DBSMNG supports small, homogeneous data bases and allows them to be quickly established and easily maintained. DECUS number 11-695.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DFL: A Program to Dump Physical Blocks from Floppy Disk**

**PDP-11 Operating System:** RSX

**Keywords:** • Disk utilities • File transfer • Software utilities

Memory required: 14KW.

DFL dumps physical blocks from a diskette, using RX01, RX02, or RX02/03 (under RSX-11M V3.2). The DMP utility does not dump physical blocks from floppy disks. This program is useful when foreign diskettes should be read under RSX-11M and information about the file structure of the foreign diskette is needed.

Dumps can be done in the usual formats (octal, hexa, and ASCII) and can be directed to any Files-11 device of the system. DECUS number 11-767.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DIRECTORY: List Disk Directories**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities

Memory required: 8K.

This program enables the user to sort and display the directory of an RT-11 disk or DECTape. The program, similar to but more flexible than the PIP/L switch, displays for the user a list of all files on the specified device that match the input file specifications. The program also sorts the directory alphabetically by file name, alphabetically by extension, chronologically by date, in order of increasing size, or the reverse of any of those. In addition, files dated either before or after a specified date can be excluded from the directory. DECUS number 11-315.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DISKMT, VARASC, and DOSRT: Programs for Reading and Writing Magnetic Tapes**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion • Disk utilities • File transfer

Memory required: 12KW.

DISKMT makes it possible to transfer RT-11 files to tape "MT" in a special Files-11 format that can be read with both VAX/VMS and RT-11 operating systems. This tape format is ANSI standard format with two header labels and fixed-length records (block length = record length = 512 bytes). For further documentation, see file DISKMT.DOC, which also contains other useful information on handling RT files on VAX, the use of the VAX utility FLX, and so on.

VARASC allows one to convert Files-11 ASCII files to RT-11 ASCII files. Such file format is often used on ANSI standard tapes (with variable-length record file format) coming, for example, from the VAX/VMS or IAS operating system. For further documentation, see file DISKMT.DOC.



DOSRT allows one to transfer files from a DOS format tape to an RT disk (directory-structured device). With DOSRT, one can take a directory of the DOS tape, search for all files with a given name (including the RT-11 wildcards \* and %), and transfer files from a certain part of the tape. For further documentation, see file DOSRT.DOC. DECUS number 11-585.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## DISKTEST

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Decision support • Disk utilities • File transfer

DISKTEST evaluates disk performance while the disk is doing real data transfers in an operating computer system. DISKTEST programs report run and access times in seconds and data-transfer rates in bytes/seconds. Programmers find that DISKTEST programs provide useful information about data-transfer rates.

DISKTEST also compares the performance and economy of alternative disk subsystems. That allows system managers to analyze various disks on the market.

A version of this product is available for VAX computers.

**Price:** \$500 - \$2500

**Contact:** Robert C. Peckham, Vice President  
(213) 849-4082

### COMPUTER PROGRAMMING SERVICES

1925 W. Glenoaks Boulevard  
Glendale, CA 91201

## DOPTER

**PDP-11 Operating System:** RSTS

**Keywords:** • Disk utilities

DOPTER automatically performs every disk optimization available in any other product, as well as many optimizations that are unique to DOPTER. In addition to the common optimizations, DOPTER automatically places the most-used files nearest the center of the disk and the most frequently opened files nearest the start of the UFDs. DOPTER's proprietary algorithm builds a better UFD structure that stays that way longer than do those produced by REORDR or RDR. A 30-day DOPTER trial is available for \$100.

**Price:** \$750

**Contact:** William R. Davy  
(614) 764-1585

### SYSTEM PERFORMANCE HOUSE, INC.

5522 Loch More Court  
Dublin, OH 43017

**DPH: File Header Dump Program****PDP-11 Operating System:** RSX**Keywords:** • Printing • Text management

Memory required: 10KW maximum.

The DPH program prints out the full contents of the Files-11 file header block. Besides the standard information that can usually be obtained from the PIP List Full Directory command (/FU), the DPH program shows the contents of the header map area. The program may be very useful when the virtual blocks within a file are to be transcribed or considered with the logical blocks on the device assignment.

This program supports as input the standard I/O system MCR command and consists of two parts. The first, written in MACRO, checks the MCR command syntax and reads the file header block into the common buffer. The second, written in FORTRAN, prints the header block in a readable format. The DPH runs as an RSX nonprivileged program and is suitable for all versions of this system. DECUS number 11-511.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**DSKBLD (RSTS/E Disk-to-Disk Utility)****PDP-11 Operating System:** RSTS**Keywords:** • Disk utilities • File transfer

This utility copies one file-structured disk to another. The resulting disk is optimized for more efficient performance on RSTS/E systems. DSKBLD can give dramatic throughput improvements on RSTS/E systems that are limited because of disk I/O or file processor contention.

DSKBLD saves RSTS/E accounting data, creates UFDs contiguously to proper length, locates files adjacent to the owner's UFD, allows placement of a scratch area on the output disk, optimizes file cluster sizes automatically, creates UFDs in sorted order, untangles directory links, is extremely fast, and is fully documented and easy to use.

**Price:** \$995**Contact:** Gary Vowels

(206) 325-2200

MANUS SERVICES CORP.

1130 Rainier Avenue South

Seattle, WA 98144

**DSKCHK: A Program to Check Space on Disks****PDP-11 Operating System:** RSX**Keywords:** • Diagnostics • Disk utilities

Memory required: 1 KW.

This program repeatedly checks the available free space on an RSX-11 disk volume and compares the free space against a user-specified lower limit. If the available free space falls below the limit, a warning message is sent to all terminals in the system, specifying the volume name.



The user can specify the volume to be checked and the rerun interval for the program. Once started, the program reruns automatically at the time initially specified. The program must be stopped with the ABORT command. DECUS number 11-636.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DSKLIB: A Disk Librarian Utility Program**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities • Software utilities

Memory required: 16K.

This program maintains a master catalog of multiple disk directories. Disks are given unique numbers and names and are then placed in the master catalog. A powerful FIND command locates a particular file. Full wildcards and multiple switches are supported.

All RT-11 random-access devices are supported. DECUS number 11-743.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DTX: A Utility for Transferring Text Files and Absolute Binary Images**

**PDP-11 Operating System:** RT-11

**Keywords:** • File transfer

DTX transfers text files and absolute binary images to XXDP+ formatted media under the RT-11 operating system or RT-11 emulators under RSX, VMS, or RSTS. DTX supports RX01, RX02, RL01, RL02, magtape, RK05, RK06, and RK07. DTX is for users wishing to develop a program under VMS, RSX, RSTS, or RT to operate under the XXDP+ system. DECUS number 11-649.

Associated documentation: Contact your DIGITAL sales representative for the *XXDP+ User Manual* (AC-F348E-MC), which is not available through DECUS.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DXEBSC: Floppy Disk Utility**

**PDP-11 Operating System:** RSX

**Keywords:** • Data conversion • Disk utilities • File transfer

This RSX-11 task can read sectors of text from a single-density, 1-sided diskette written by an IBM machine. The program converts the EBCDIC to ASCII and transfers the resulting text by way of Files-11 to a user-specified location. The user specifies the sequential sectors to be read from the diskette. The sources for two tabbing editors are included: RETAB for assembler source text and FTEDIT for FORTRAN source text. DECUS number 11-396.

Note: DXEBSC produces variable-length format records even when the records are of fixed length. Assembly requires a macro library whose macros in source form are included. IO.SEC, used by device DY:, comes up undefined under V2.0. That should be of no consequence. INFO.TXT on the diskette contains suggestions for getting the modules assembled and the tasks built.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## **EDPC Utilities Package**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Software utilities

The EDPC Utilities Package consists of the following:

- ADDER causes any video or printing terminal to emulate an adding machine (DIBOL).
- AMORT is used for displaying and printing an amortization table (BASIC).
- BADCHR strips files of nonprinting characters (DIBOL).
- CKDIGT develops a series of numbers under various check-digit methods for a video or a printing terminal user (COBOL).
- COUNT quickly finds the number of records or words in a file (BASIC).
- DISPLAY prints all or limits the number of characters for each record in a file (DIBOL).
- DELETM reads a file created by directory and creates an indirect command file to delete certain files more than five days old (DIBOL).
- ELIMINATE creates a file containing only specified records from an existing file (DIBOL).
- GETREC displays a file block by block and alternately lists each character in a block (BASIC).
- SEARCH allows the user to choose a specific "TARGET" in a series of files (DIBOL).
- MAIL allows any terminal user to send a message, based on a tickler system, to an authorized individual or to all hands (BASIC).
- PAD pads any BASIC-PLUS or DIBOL stream file with trailing spaces after removing nulls and trailing tabs and spaces (BASIC).
- PRINTM is used for printing files when the user does not want the RSTS/E prompt to appear at the end of printing (DIBOL).
- RANDOM develops a list of random numbers (BASIC).
- STRIP strips off trailing spaces and tabs from records in a file, thus saving disk space (BASIC).
- WRITER prints a file one or more times, allowing pause for paper change, stop for keyboard insert of inside address, and printing on the user's or a remote terminal (BASIC).
- MCRFCH creates a magtape for microfiche use and inserts reader-required tags (BASIC).
- PHONE keeps a record of phone numbers and overhead G/L account number for analysis or rebilling purposes (COBOL).



**Price:** \$250 – \$4000

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.  
1010 S. Weinbach Avenue  
Evansville, IN 47714-2994

### **European MINC Package #1 — Utilities**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion • File transfer • Printing  
• Software utilities

The following is a brief description of the programs:

- VALIST — BASIC program lister
- ALPHA — Researches and arranges in alphabetical order all the variables used in a program
- DATTIM — Ensures that new files are dated
- WCARD4 — File listing and transfer utility
- PGMVAR — Search program for variables
- UNPAK — Unpacks a packed BASIC file to make the program easy to read
- MANTRA — Provides a PRETTY-print on MINC BASIC program
- DIRT — File management directions sort a new version of the existing DECUS program, with improved print facility
- FULSCAR — Full screen-management package, a debugged version of existing DECUS program

DECUS number 11-572.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **EXTMT: A General-Purpose Magnetic Tape Handler**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Device drivers/handlers • File transfer  
• Source code control

Memory required: 730 bytes.

EXTMT, a FORTRAN-callable magnetic tape handler written in MACRO, can read or write tapes in any arbitrary format. The tape is mounted on drive 0. Use the "SET" keyboard command to select tape density and lateral parity. To change the unit number, change the conditional assembly switch "CHANGE" in the assignments section of the MACRO source as desired prior to assembly of the subroutine. Complete instructions on the FORTRAN calling sequence are presented in the description section of the MACRO source.

Four applications programs (three written in FORTRAN and one in MACRO) are included with this handler. The FORTRAN programs write to (WDOSMT), read from (RDOSMT), and produce a directory of (DSMTDR) magnetic tape in DOS/BATCH format. The MACRO program (RWMT) rewinds and takes off line the selected tape drive(s).

Complete user instructions are included as comments within each program.

The subroutine EXTMT and the programs DSMTDR, RDOSMT, WDOSMT, and RWMT are executable under both RT-11 and TSX-PLUS. DECUS number 11-337.

Note: DSMTDR has been added, a bug in EXTMT has been fixed, and RDOSMT has been enhanced.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FALCON Application for RT-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Microprocessor development • Source code control

This package contains TECO command files that will sufficiently modify RT-11 Version 4.0 source files to enable generation of an RT-11 system (SJ or FB) to run on the SBC-11/21 FALCON microcomputer. Once the source files have been modified, they may still be used to generate "normal" RT-11 systems. All FALCON-specific code is assembled conditionally, depending on the values of flags in the file SYCND.MAC. A patch for the file SYSGEN.CND includes the FALCON options in the SYSGEN process and causes the appropriate entries to be made in the SYCND.MAC and MONBLD.COM files. DECUS number 11-605.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FAST Subroutines for Performing Block I/O Under Files-11**

**PDP-11 Operating System:** RSX

**Keywords:** • Disk utilities • File transfer

This collection of file-open, read, write, and close subroutines may be used to perform block (unbuffered) I/O to a random-access device under RSX Files-11. Unbuffered I/O permits the fastest possible throughput rates to disk, which is valuable for real-time or time-sensitive applications. The subroutines allow for sequential and direct-access operations. Support is provided for fixed-record-length data transfers only; after the record length is specified during a file-open procedure, all I/O attempts to transfer that same amount of data. All software is written in MACRO-11, and a subroutine user's manual is provided on the media. DECUS number 11-545.

**Restrictions:** This software works only with fixed record length I/O.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**File Management Utility, Version 2.3****PDP-11 Operating System:** RSX**Keywords:** • Menu handlers • Printing

Memory required: 31KW for INQ; 14KW for CTL.

INQ enables a user to manipulate files with fixed-length records. INQ has the power to change a record file by its logical number or key, make a hard copy, display records, print a user file, print a record file selected by a key, and copy records from one file to another.

A key is a set of conditions that includes a data name, data value, and data operator. Each key is defined in the interactive mode.

CTL, another program, enables the user to create and manage a control file. With CTL, a user can define characteristics of a user file (record length, title), sort the data to be printed, and define the data to be manipulated. The files are password protected.

This utility is restricted to tasks running only on a VT100, and generation is only on RSX-11M or RSX-11M-PLUS. DECUS number 11-549.

Note: Each menu includes all functions and a help command. Maintenance, functions, and statistics of the programs have all been improved.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**File Manipulation Commands****PDP-11 Operating System:** RT-11**Keywords:** • Computer operations • Text management

These file-manipulation "executives" allow you to make global changes to all lines of a file. The "executives" call up TECO files to perform the work, which includes numbering all lines of a file, moving a set of columns to a new column location for all lines, padding out the end of lines to a given column, cutting long lines to a given column, fixing all lines to a given column, eliminating all tabs from a file, replacing spaces with tabs, shuffling two files together, combining columns of two files, stripping comments out of code, and stripping code out of comments. DECUS number 11-690.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**File Transfer System****PDP-11 Operating System:** CTS-300, RSTS, RT-11**Keywords:** • Data conversion • File transfer

This system, used to transmit files between DIGITAL data systems, consists of two programs: LOCALT, the transmitter, and REMOTE, the receiver. Data system 300s and 500s can be used on either end. The files

are transmitted in a packet-oriented mode. Each packet has a packet number and a longitudinal parity check; therefore, packets with communications errors are automatically retired. After the loss of the communications line, the system can, once reestablished, continue where it left off. Source, object, and data (including ISAM) files can be sent. The system also does data compression of all strings of the same character. The system can be run in any DIBOL environment, including the TSD environment.

**Price:** Available upon request

**Contact:** Ruth K. Kooolish

(312) 724-9280

HARTLEY DATA SYSTEMS, LTD.

1807 Glenview Road

Glenview, IL 60025

### File Utility Programs for MU BASIC/RT-11

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion • File transfer  
• Software utilities

Memory required: 1800 words.

This set of file utility programs written in BASIC allows the MU BASIC/RT-11 user to list and modify device directories, perform file transfers, or edit line-formatted ASCII files. Conversion between virtual array and ASCII format files is supported, and facilities are included for extensive character string search and manipulation, as well as user-defined MACRO editing commands. DECUS number 11-297.

**Restrictions:** Form-feed characters are removed from text. This restriction is caused by the INPUT statement in MU BASIC.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### Files

**PDP-11 Operating System:** RSX

**Keywords:** • Disk utilities • File transfer

This program allows the user to see which files are using specific logical blocks on a Files-11-structured device. From the listing, the user can move the identified file to the front section of the device (assuming there is room), delete the old file, and therefore free up contiguous space without the need to run DSC. The user can specify the start/stop values used in the search by means of either a /LBN switch, which permits indication of the logical block numbers, or a /BLK switch, which indicates the range of the search by the virtual block numbers within BITMAP.SYS. A /WD switch allows the user to specify down to the word within a BITMAP.SYS virtual block, which represents 16 blocks.

The program accomplishes that by permitting the user to specify any legal FCS output filespec and an input filespec consisting of the device



and the switches above. After determining the range of the search, the program searches all headers, looking at their map pointers to see which, if any, are within the search region. Those that match are passed to the output file in the full filespec format. A summary listing, which can be produced without searching, provides information on the device, the number of blocks on the device, the blocks contained in the search, the low/high logical block numbers and their decimal equivalents (in DMP /HD format), the number of files found, the elapsed time, and a copy of the command line string. DECUS number 11-473.

Note: Improvements made in the file header locations and output formats.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **FILTRA (File Transfer Program)**

**PDP-11 Operating System:** IAS

**Keywords:** • File transfer

Memory required: 12KW.

FILTRA, written for the PDP-11/70, enables the host computer to transfer files to and from a microcomputer. As FILTRA includes error checking, the microcomputer must have a compatible program, such as MODEM. Compatible programs for microcomputers such as the VT180 and the Rainbow 100 are available commercially, and others are in the public domain.

Although FILTRA is designed as a host program, it could also be used as a local file transfer program to another PDP-11 or to a VAX. To use FILTRA as a local program, either minor programming changes would have to be made, or hardware (switches) would have to be added to a system. FILTRA uses several system subroutines and is therefore limited to IAS Version 3.1 and possibly RSX-11M-type operating systems. Files are stored on the host computer as formatted data files.

No restrictions are made on the type of data to be transferred. The data may be either 7-bit ASCII or 8-bit data. The actual transfer uses 8-bit values. Binary (8-bit) files are stored as 128-byte records. ASCII files are reformatted so that each line corresponds to a record. Files produced by the Select word processing package are formatted to preserve hard and soft carriage returns.

The protocol used for file transfer is the Christensen protocol summarized here. Files are transferred between computers in 128-byte blocks. The blocks are preceded by a start of header (SOH), block number, and complementary block number. The data blocks are followed by an 8-bit checksum. The receiving computer indicates an error-free reception by sending an acknowledgment (ACK). If there is an error, the receiving computer sends a negative acknowledgment (NAK), and the sending computer retransmits. DECUS number 11-674.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

**FORMAT: DECTape Formatter for RT-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities

This program is the standard PDP-11 DECTape formatter TOG-11, modified to run under RT-11. The programmer makes formatted DECTapes on unit 7 with a standard format of 578(decimal) blocks of 256(decimal) words each. DECUS number 11-216.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

**FSORT3**

**PDP-11 Operating System:** RSTS

**Keywords:** • Programming tools • Software utilities

FSORT3 is a very fast run-time system capable of sorting up to 16 million records or keys. Record and key formats are compatible with those of the RSTS-11 Sort package, into which FSORT3 can be integrated by replacing RSTS-11 Sort modules with their counterparts from the FSORT3 package. FSORT3 can also be used stand alone. FSORT3 is up to 70 times as fast as the RSTS-11 Sort package in CPU time and up to 45 times as fast in stand-alone wall time.

A version of this product is available for the VAX computer.

**Price:** \$2500

**Contact:** Martha Scott

(617) 861-0670

EVANS GRIFFITHS & HART, INC.

55 Waltham Street

Lexington, MA 02173

**FTU (File Transfer Utility)**

**PDP-11 Operating System:** IAS, RSX, RT-11

**Keywords:** • Asynchronous communication • File transfer

FTU uses an RS 232 or 20mA asynchronous serial communications link to transfer files in either direction between PDP-11 systems and VAX systems. Any combination of hardware and operating system at either end is acceptable. An additional mode allows use of a parallel connector in conjunction with control over the serial link for higher-speed transfers.

FTU automatically logs on to the remote system and initiates a slave program for the transfer of files. On completion of the file transfers, the slave task is terminated, and FTU logs out from the remote system and then exits. No action is required by an operator at the remote site of multiuser systems.

A version of this product is available for VAX computers.



**Price:** Available upon request

**Contact:** Jim Marshall or Chris Evans  
(0329) 232658

PROSIG COMPUTER CONSULTANTS LTD.

Link House, High Street

Fareham, Hants PO16 7BQ England

### **GETBIN: Change a Paper Tape Binary Program to an RSX-11M Bootstrappable Task**

**PDP-11 Operating System:** RSX

**Keywords:** • Disk utilities • File transfer

Memory required: 10KW.

GETBIN allows you to get hardware test programs booted quickly and easily from disk to core. Thus, programs that the absolute loader can load can be put on disk and thereafter be loaded by the RSX-11M BOOT command. DECUS number 11-281.

Note: A small patch has been added to the documentation to permit handling of multiline indirect command files.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **HEX: Hex File Editor**

**PDP-11 Operating System:** RSX

**Keywords:** • File transfer • Software utilities

HEX, designed to manipulate ASCII hex-formatted files as output by cross-assemblers and linkers for microprocessors (Z80, 8085, 68000, and so forth), supports the Intel, TEKHEX, Extended TEKHEX, Motorola, and MOSTEK ASCII hex formats. The principal component of HEX is a 32K-byte virtual memory area that allows the user to manipulate code in memory as if it were in the target machine. The 32K-byte virtual memory can be extended to cover the entire 2\*\*32 address range by way of the OFFSET command. HEX handles 16-, 24-, or 32-bit addresses. DECUS number 11-480.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **IRIS-MINI**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Application development • Data base management  
• Report writer

This software application tool permits the inexperienced user to set up programs, using menus. The system is modular and allows the user to customize IRIS-MINI. Menus, screens, messages, function keys, and the language can be changed without modifying the program.

## 578 File Management

At data entry, IRIS-MINI checks the data according to the user's specifications. IRIS-MINI transfers data across files, enabling the user to do global updates. IRIS-MINI also allows the user to scan or see cross sections of records.

The report feature allows various formatting functions for the production of invoices, statements, and documents. A cross-tabulation feature produces statistical reports.

The system does not require the user to have computer experience or training. IRIS-MINI consists of the main program, MULTI-FILE, utilities, and documentation. Demonstration kits are available for \$350.

A version of this product is available for VAX computers.

**Price:** \$3995 - \$4795

**Contact:** Paul Lennard  
(714) 771-7744

LENNARD SYSTEMS

3139 East Almond Avenue

Orange, CA 92669

### ISAM Subroutines Library

**PDP-11 Operating System:** RT-11

**Keywords:** • Data base management • Information management

Memory required: 22KB.

The ISAM Library provides a full ISAM file capability by providing basic file and record management FORTRAN subroutine calls. The system features file and key creation, record and key addition, pointer and record extraction, multiple key intersection, and extraction through unique keys and key ranges. DECUS number 11-459.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### ISMDDF (ISAM to DIBOL Data File Utility)

**PDP-11 Operating System:** CTS-300

**Keywords:** • File transfer

Memory required: 32KB.

ISMDDF reads an ISAM file (.ISM) and creates a DIBOL Data File (DDF). The input file is not altered. The sequential output file can be used by ISMUTL to create a new ISAM file. ISMDDF allows selection of a specific number of records, starting at a given key. That feature has been helpful in creating small files for program testing. DECUS number 11-647.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**Laboratory Peripheral Device Handlers for the LSI-11****PDP-11 Operating System:** RT-11**Keywords:** • A/D, D/A • Data collection  
• Device drivers/handlers • Real time

This series of RT-11 FORTRAN IV subroutines is used for real-time data acquisition and display using Andromeda Systems, Inc., analog-to-digital converter, digital-to-analog converter, and real-time clock (PRTC11 or DEC, KWV11). DECUS number 11-389.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**LAD/11 (Local Area Devices) for RSX****PDP-11 Operating System:** Micro/RSX, RSX**Keywords:** • Device drivers/handlers • File transfer  
• Networking • Systems communications

LAD/11 extends the file system of RSX operating systems by making the RSX file system function as a distributed network. Available for Micro/RSX, RSX-11M, and RSX-11M-PLUS, LAD/11 gives RSX programs symmetric, transparent access to all disk and data resources in a network of RSX and VAX/VMS systems through standard RSX disk and file I/O operations. No changes are made to existing operating system or application software. RMS, FCS, PIP, BRU, and so on all operate transparently to and from any system in the network.

One example of LAD/11's potential is its use in clustered RSX system configurations. With LAD/11, any number of RSX systems can share disks and data files, and applications can use standard RSX record-locking facilities and file-access controls as needed. In addition, RSX and VAX systems can be configured to act as file, disk, tape, and print servers for use by other RSX systems.

LAD/11 can be interfaced with any type of data communications software and hardware subsystems. Thus, a customer can configure an RSX cluster, using the network technology that best meets application requirements. Standard interfaces provided with LAD/11 include RS-232, DECnet, and Ethernet. Additional interfaces are available as options, or custom interfaces can be easily developed.

LAD/11 is particularly appropriate for use in broadband and baseband local area networks but is a powerful tool in any distributed application environment.

A version of this product is available for VAX computers.

**Price:** \$675 - \$1975**Contact:** Roger A. Uphoff, Marketing Manager  
(314) 394-1600

MERIDIAN TECHNOLOGY CORP.

P.O. Box 2006

St. Louis, MO 63011

## **LOCATE — Multidevice File Locator**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities • Software utilities

**Memory required:** 4.5KB.

This program, written in MACRO, is designed to locate files contained in a preentered list of physical or logical/virtual devices or file names. LOCATE will run in a minimal RT-11 system V3.0 or later.

LOCATE can be invoked the same way as DIR and can be used in place of DIR for a quick directory listing. LOCATE's output line is similar to DIR's, with the addition of the device or file name preceding the located file(s). The search list has a capability of 60 files or device specifications. Full wildcards (both \* and %) are supported for both the name and extension of the files being searched for, as well as the name and extension of the files/devices in the search list.

LOCATE does not produce sorted listings. If a device is off line, has no media installed in it, or produces any kind of error or if a file in the search list does not exist, the file is skipped in the search, and the next entry is processed. The output listing defaults to the console terminal but may be redirected to any valid RT-11 device or file by including an output file specification in the command line through the normal RT-11 convention.

LOCATE is the next step up from DIR. With the gigabyte disk, unless you can go right to the file, it may be lost. LOCATE allows you to search through your logical and physical devices without having to mount and unmount each device file, as you would have to with LD:. The use of wildcards lets you search for tentative matches if you are not sure of the file name.

**Price:** \$100 — \$350

**Contact:** Edward Judge  
(413) 584-7159

FAIRBROTHER ASSOCIATES

P.O. Box 685

Northampton, MA 01061

## **LSI-11 Audio Cassette Utility**

**PDP-11 Operating System:** None required

**Keywords:** • Device drivers/handlers • File transfer  
• Signal processing

**Memory required:** 512 words.

This program is used for loading and saving memory images of programs and data on audio cassette tapes. The recorder/player is interfaced to the system through a simple interface circuit that connects to a DLV11 Serial Line Unit. Other media (for example, paper tape) and device interface hardware can be used with this program if device registers are compatible with the DLV11.



Three ACU commands are provided for reading (loading), writing (dumping), and verifying (nonmemory modifying read) program tapes in absolute loader format. In response to operator commands, ACU displays parameters that the user can change or insert before executing the requested operation.

One additional command effects a continuous series of alternate 1 and 0 bits to be output as an aid in tuning or testing audio cassette interface hardware.

All ACU code is PIC, allowing the program to be relocated, starting on any word address. All ACU code can be loaded in either RAM or ROM; only 512 locations are required. ACU automatically establishes a 4-word stack at the top of read/write memory, regardless of system size or location of the ACU program. Two start/restart addresses are provided, allowing ACU to be loaded in  $512 \times 4$  PROMs as used on the MRV11-AA PROM module. Detailed loading and operating instructions are included in the *ACU User's Guide* documentation. DECUS number 11-398.

Note: The binary tape supplied contains position-independent code and can be loaded at any starting address in RAM or ROM. Included in the writeup and listing is an LST-11 audio cassette interface. This interface is designed to connect the DLV11 20 ma I/O to the audio cassette recorder ear and AUX (or MIC) jacks.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MAGINT (Magnetic Tape Interchange Program)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data conversion • File transfer

Memory required: Variable.

MAGINT facilitates the interchange of data between computers by magnetic tape. Tapes are read and written in card-image format (usually 80 bytes/record) padded with spaces. (That figure is variable.) However, ASCII/EBCDIC and other code conversions can be performed as needed. Magtape I/O methods provide flexibility in operation. MAGINT comes with thorough documentation and a user's guide. DECUS number 11-331.

Restrictions: MAGINT uses system functions and language syntax not available before RSTS/E V7.0. MAGINT cannot process compiled or object code, only source or text material.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MATCHMASTER™**

**PDP-11 Operating System:** RSX

**Keywords:** • Data conversion • Debugging • Query facilities  
• Software utilities

This file service program can edit, clean, compare, change, move, translate, copy, display, count, and create data. The program does file matches, splits, conversions, creations, ASCII transmissions, minireports, and duplicate record elimination.

MATCHMASTER accepts standard file types and provides hands-on data inquiry and manipulation without data dictionaries, allowing immediate use by users familiar with file formats. Custom interfaces are easily built with the system command processor.

MATCHMASTER includes unlimited logic compounding with Boolean and Boolean shortcuts, bidirectional and nested scanning, an English-language summary, and an optional hard-copy audit trail.

A version of this product is available for VAX computers.

**Price:** \$1400 - \$1900

**Contact:** Steve Gant, Vice President  
(212) 608-8045

PALACE COMPUTER SERVICES, INC.

125 Cedar Street  
New York, NY 10006

### **MBOT04 Bootstrap Loader**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities • File transfer

MBOT04, an absolute loader for RT-11 formatted floppy disks, is upwards-compatible with ABOOT. The DIGITAL absolute loader format has been extended to allow loading programs into high memory (greater than 28K) on 11/23s. MBOT04 will load (/overlay) up to 10 load modules from the same diskette. Two versions of this program can be compiled for RX01 and RX02 disks. DECUS number 11-551.

Restrictions: Bootstrap is too large to load with RT-11 V2 PIP.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Menu Presentation Software**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Menu handlers • Programming tools

The Menu program allows rapid development of interactive menus for application systems. The menu layout and the action sequences are specified in editable menu files, allowing quick prototyping and modifications. Separate menu files can exist within the system to accommodate different applications or classes of users.

The Menu program can substitute for /bin/sh as the user's log-in shell. Thus, an application environment can be created that completely isolates operators from the need to access facilities to which they may not or should not be given access.

The Menu text file describes the screen layouts that can be presented to the user. That file allows specification of command lines, status lines



for informative messages, prompt lines, menu choices, the date, and emphasized lines — for example, double-sized characters — for terminals having appropriate hardware capability.

The Menu command file is specified as if it were a case statement, where the case selector represents a user input. The following commands can be executed within a case: run a program (with arguments), execute a string as a shell command, display a status message, display a prompt, read input from the user, wait for user response, and go to another menu.

A version of this product is available for VAX computers.

**Price:** \$200

**Contact:** Douglas J. Ross, Vice President  
(613) 548-4355

ANDYNE COMPUTING LTD.  
544 Princess Street, Suite 202  
Kingston, Ontario K7L 1C7 Canada

### **Micro/RXS SORT/MERGE**

**PDP-11 Operating System:** Micro/RXS

**Keywords:** • Software utilities

This utility for the Micro/RXS operating system can accept up to 10 RMS-11 formatted files and produce one reordered RMS-11 formatted file. Records can be sequenced in ascending or descending order by as many as 16 key fields with a maximum total key size of 512 bytes. Commands to Micro/RXS SORT/MERGE can be issued interactively, through the standard command-line interface or through the specification file created by the user.

Micro/RXS SORT/MERGE includes a package of callable subroutines that allow many other Micro/RXS languages to execute a sort or a merge. This callable package also allows the user to specify several user-written routines — for example, an equal-key callback, a user-defined key comparison algorithm, a user-defined warning routine, and a user-defined input routine for the merge record interface — that will be used instead of the predefined Micro/RXS SORT/MERGE routines.

Refer to SPD #18.13.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$140 – \$300

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **MIS (Management Information System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Information management

Memory required: 11K (may be made smaller).

MIS takes a file of fixed-length records and produces another file of fixed-length records, which is the first file with subsets or sorts. DECUS number 11-89.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MTSKIN: Write on a Tape in Card Format**

**PDP-11 Operating System:** IAS

**Keywords:** • Device drivers/handlers • Software utilities

Memory required: 7KW.

MTSKIN, a program available for IAS Version 3.0 users, permits writing on a magnetic tape in card format. The program copies the files, whose name you specify in the input, onto a tape that has not been initialized. The records of the created file constitute 80 bytes each; the program puts an end-of-file mark at the end of each created file, with two end-of-files marks at the end of the last file to characterize the end-of-volume point. MTSKIN then allows, before the copy, the user to reach the desired position on the tape, through the detection of the required number of end-of-files marks. DECUS number 11-724.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MTSKOUT: Read a Tape in Card Format**

**PDP-11 Operating System:** IAS

**Keywords:** • Device drivers/handlers • Software utilities

Memory required: 8KW.

MTSKOUT, available for IAS Version 3.0 users, permits reading a tape that has not been initialized, with the files stored in card format. The program copies the specified files of the tape into a file whose file specification you supply in the input; the records supposedly constitute 80 bytes each. Before the copy, the program allows reaching the desired position on the tape, through the detection of the required number of end of files. DECUS number 11-723.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **NANOBIT Disk Sort**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Disk utilities

This program for systems with limited floppy or hard disk space sorts a file of fixed-length records into itself without using work files. Users can sort records into separate output files so that the sort program reads only the unsorted input file. That option allows the user to keep a copy of the input file in unsorted order for backup. When new records are added to a previously sorted file, the program sorts them and merges back to the previously sorted part.



No practical limit exists on the complexity of the sort key. In the case of duplicate sort keys, prior ordering is preserved.

A binary merge/sort algorithm does most of the work. An elevator algorithm does the last brief step.

**Price:** \$250

**Contact:** Richard Sherin  
(305) 591-3716  
NANOBIT CO.  
7790 N.W. 55th Street  
Miami, FL 33166

### One-Drive Diskette and File Copy

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities • File transfer • Software utilities

Memory required: 8KW.

These programs for a Heath HT-11 or PDP-11 using RX01 drives allow users to copy files with a scratch diskette or diskettes with only one drive (DX0:) working. Additionally, if USCD Pascal Version II.0 is on the same computer, those text files can be copied between the same RT-11 or HT-11 system by means of the same scratch diskette with the same one drive working. In some cases, read-after-write is used. Also, in case of some errors, recopying of previously copied data may not be necessary.

These programs can be especially useful if you have purchased a system for which you undertake most repairs yourself. In the case of a hardware problem with a floppy drive, these programs can allow the use of your system if it can function with the remaining drive, while the faulty drive is being repaired. DECUS number 11-717.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### OS/FT (File System)

**PDP-11 Operating System:** RSX, RT-11, ULTRIX-11

**Keywords:** • Data conversion • Instrumentation  
• Modeling/simulation • Process control

This superset of the UNIX\*-style hierarchical file system provides the hierarchical function of UNIX\* systems yet can, because of its design, allow expanded hierarchical directories. OS/FT's primary function is to provide a hierarchical file system for OS/RT, Destek's real-time, multitasking operating system kernel. OS/FT was designed to be used in any disk-based process control, instrumentation, simulation, or communications control application. Additional utilities for the file system allow UNIX\*, CP/M, and MS-DOS files to be ported directly to OS/FT files. OS/FT is available in object or C source code.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** \$600 – \$3000

**Contact:** Dennis Rieger  
(408) 737-7211

THE DESTEK GROUP  
830 East Evelyn Avenue  
Sunnyvale, CA 94086

### **P8P11: ASCII File Transfer from PDP-8 to PDP-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities • File transfer

OS/8-generated ASCII files from the PDP-8 are transferred to the PDP-11 by way of diskettes. This program requires that each file be written on a separate diskette. DECUS number 11-364.

**Restrictions:** P8P11 does not read the OS/8 diskette directory. The user must keep track of file names.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **PARSE/RSX: A Flexible FORTRAN-77 Filespec Parser**

**PDP-11 Operating System:** RSX

**Keywords:** • Application development • Data entry  
• Software utilities

**Memory required:** 770(decimal) words.

This FORTRAN-77 subroutine simplifies the specification of files used in a program and reduces operator input. When used with a FORTRAN applications program, PARSE minimizes the amount of typing necessary to specify files by providing default values whenever they are not supplied at run time. Defaults can be provided for devices, UICs, and extensions. Version numbers are also accommodated. Once a "root" file spec has been created by PARSE, additional ones can be created without any user action, by means of successive calls to PARSE.

The code supports RSX UICs or VMS directory names of up to seven characters. The code could be easily modified to handle VMS directory specifications of any length. Furthermore, the code could be extended to accept DECnet nodes or VAX device specifications.

The program TSTPAR demonstrates the use of PARSE and also is a tutorial on the proper use of the subroutine. This version of PARSE has been written to take advantage of FORTRAN-77 language features and constructs. DECUS number 11-744.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **PARSE/RT: A Flexible Filespec Parser for FORTRAN**

**PDP-11 Operating System:** RT-11

**Keywords:** • Software utilities

**Memory required:** Approximately 800 words.



PARSE is a FORTRAN subroutine for specifying files used in a program and requires a minimum of operator input. When used with a FORTRAN applications program, PARSE provides default values whenever they are not supplied at run time. Both default device specifications and extensions may be handled. Once a "root" filespec has been created by PARSE, further filespecs can be created without any user action, by means of successive calls to PARSE.

The program TSTPAR demonstrates the use of PARSE and also provides extensive documentation on the proper use of the subroutine. The subroutine is used with RT-11 FORTRAN IV codes and calls several RT-11 SYSLIB routines.

An article on the use of the code is in the Summer 1983 issue of *SEXTANT*. This version of PARSE has more functionality than the one included on the DECUS Symposium tape number 11-SP-53; previous versions are upward compatible with the new one. DECUS number 11-662.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### PIP10

**PDP-11 Operating System:** RT-11

**Keywords:** • File transfer • Software utilities  
• Systems communications

Memory required: 16K.

PIP10 allows a user to interchange both ASCII and PDP-11 binary format files by way of magtape between a TOPS-10 or TOPS-20 system running the standard PIP or COPY and an RT-11 system running PIP10. DECUS number 11-437.

Note: RT-11 V3B or later must be used.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### PLIBR: A Library Control Program

**PDP-11 Operating System:** RSTS

**Keywords:** • Disk utilities

Memory required: 16KW.

PLIBR allows you to combine up to 31 files into one library file. You have complete control to list, extract, delete, rename, and replace entries in a library and to condense a library. This program is especially useful with disks with large cluster sizes or many small files. DECUS number 11-733.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

**PRO/RTSORT™****PRO Operating System:** RT-11, TSX-11**Keywords:** • Data conversion • Disk utilities

This high-performance disk file sort program for the Professional 350 can be used to sort large disk files, create sorted output files that are subsets of input files, merge multiple input files into one sorted output file, and convert disk files from one data file format to another (for example, from sequential DIBOL to relative COBOL). PRO/RTSORT is designed to sort large disk files rapidly, using the highly efficient replacement-selection algorithm, and is written in assembly language to achieve maximum speed. Processing time is overlapped with I/O time to the fullest extent, and buffer sizes are dynamically determined, based on available memory space.

Since the sort is controlled by a simple command line, setting up a sort on a new file or key is fast and easy. Up to six input files can be specified. PRO/RTSORT can be directed to include certain records in the sort (record selection) or in the sorted records-only selected fields from the input records (field mapping).

Generally, PRO/RTSORT requires less than 1.2 times the input file size for sort work files. The sorted output can be either written to a new file or directed back to the sort input file (an in-place sort).

PRO/RTSORT can be used to sort data files produced by COBOL-PLUS (including ISAM files), DIBOL, DBL, FORTRAN, BASIC, Pascal-2, and most other languages that run under RT-11 on the Professional 350, as well as text files. FORTRAN binary (unformatted) and DIBOL or DBL ISAM files are not supported. The input and output file types can be specified separately to PRO/RTSORT, which converts from one data file format to another. Records sorted by PRO/RTSORT can be of variable length.

PRO/RTSORT can be run directly, chained to, or run under TSX-PLUS as a detached job and called by the TSX-PLUS interjob message communication facility. PRO/RTSORT can be invoked directly from COBOL-PLUS, DBL, and FORTRAN programs.

**Price:** \$300

**Contact:** Gary Manookian  
(615) 327-3670

S &amp; H COMPUTER SYSTEMS, INC.

1027 17th Avenue South  
Nashville, TN 37212

**/rdb™ (Relational Data Base Management System)****PDP-11 Operating System:** ULTRIX-11**Keywords:** • Data base management • Programming tools

This relational data base management system is easy to use, inexpensive, portable, and powerful. You can create a table as a flat UNIX\* ASCII file with a text editor. UNIX\* shell-level programs use standard



in and out and pipes. Data is kept in UNIX\* flat ASCII files. The table only needs tabs between columns and column names on the first line. Then all the 50+ shell-level and pipeable programs can manipulate the files without the overhead of schema, data dictionaries, or fixed-length records.

The /rdb system is fully relational. You can project columns, select rows, join tables, compute, do cash flow, sort, union, validate, and so on. The system generates reports, mailing labels, form letters, and more.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** \$500 – \$700

**Contact:** Rod Manis

(713) 465-4499

MULTINATIONAL SOFTWARE, INC.

P.O. Box 440938

Houston, TX 77244-0938

### **RDSEDT (RSTS Disk Structure Editor)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer operations • Diagnostics  
• Disk utilities

Memory required: 32K.

RDSEDT allows you to view and edit the RSTS disk structures on any disk volume, mounted or unmounted. Edits are done in the formats of the affected fields found in each blockette type on a RSTS volume. Forward and reverse links and a FIND function let you navigate through the structure with ease. ANALYZE and RECOVER commands allow you to analyze a severely corrupted pack or to recover files from that pack.

Standard versions, demo copies, and 30-day licenses are available. An I- and D-space version of the task image is also included for use under RSTS/E V9.0.

An extensive user's manual containing a description of RSTS disk structures with diagrams is included.

RDSEDT supports RDS 0, RDS1.1, and the new RDS 1.2 from RSTS/E V9.0.

**Price:** \$100 – \$500

**Contact:** Philip Hunt

(408) 578-9577

ALPHAWARE

310 Henderson Drive

San Jose, CA 95123

### **RECOVER: An RT-11 Directory Restore Utility**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities

**Memory required:** 12KW.

RECOVER modifies the directory blocks of an RT-11 disk that has been initialized, effectively restoring that disk's files. Unlike the INIT/RESTORE command of the RT-11 monitor, this routine works on disks written under versions of RT-11 prior to V4.0 and on disks written under RT-compatible operating systems, such as Tektronix's SPS BASIC. All RT-11 block-replaceable media are supported by this routine, including DECTape-II and PDT devices. DECUS number 11-650.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RECOVER (RSX Corrupted Disk Recovery Utility)**

**PDP-11 Operating System:** RSX

**Keywords:** • Disk utilities • Security

RECOVER is a "soft" disk disaster-recovery utility for PDP-11s under the RSX operating system family. RECOVER restores lost files and corrupted Files-11 (ODS Level 1) disks to new output media. The utility correctly handles the special cases of (2,2) mapping; virtual disks; and multiheader, RMS, deleted, directory, and system files. Output media need be only as large as the largest file to be recovered; "output disk full" conditions are handled automatically.

A version of this product is available for VAX computers.

**Price:** \$500 - \$7500

**Contact:** Bruce R. Mitchell  
(715) 386-8032

MACHINE INTELLIGENCE AND INDUSTRIAL MAGIC  
P.O. Box 601  
Hudson, WI 54016

### **REVISE: A Scanner for RT-11 Device Directions**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion • Disk utilities

**Memory required:** 28KW or less.

REVISE scans through RT-11 device directories for files matching given wildcard specifications and gives the user the option of inspecting or deleting each file in turn. REVISE provides a straightforward method for examining a series of files and clearing up an accumulation of out-dated, useless files on larger RT-11 volumes. DECUS number 11-758.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**RLUTIL****PDP-11 Operating System:** RSX, RT-11**Keywords:** • Diagnostics • Disk utilities

RLUTIL is a program for examining and patching RL01 and RL02 disks. The key features include the ability to maintain or create the bad-sector file, normally not accessible through the standard device drivers; referring to areas on the disk by block number or by specifying cylinder, head, and sector; patching by byte or word; and the return of the head to its starting position on program exit.

**Price:** \$90 +**Contact:** Dr. Roger H. Abbott

08677-3625

RHA (MINISYSTEMS) LTD.

83 Gidley Way

Horspath, Oxford OX9 1TQ England

**RMS-11 FORTRAN-Callable Subroutines****PDP-11 Operating System:** RSX**Keywords:** • File transfer • Real time

Memory required: Variable, depending on modules used.

These subroutines permit RSX-11M applications tasks to use the RMS-11 file and record-processing routines to create and access RMS-11 sequential and relative files and RMS-11K indexed files. The subroutines operate as the interface between the user task and the RMS-11 MACRO calls, providing access to them from a FORTRAN program. Other subroutines allow the user to access and modify the fields of file access blocks, record access blocks, name blocks, and extended attribute blocks. The FORTRAN IV-PLUS user has the benefit of an include file defining RMS values for control block fields and error messages. The control blocks are built with the help of an RSX-11M indirect command file that, with long or short dialog, guides the user through the allocation of RMS-11 facilities.

A special OPEN by FILE-ID routine is provided for fast access to files in the real-time environment. Special subroutines are provided to aid in the processing of locked files or buckets. DECUS number 11-384.

Note: The subroutines, designed to be used with FORTRAN IV-PLUS, can be used with FORTRAN IV, subject to exclusion of FORTRAN IV-PLUS features. RMS-11K is optional.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**RMSREO (RMS Indexed File Reorganization Utility)****PDP-11 Operating System:** RSTS**Keywords:** • Disk utilities

To solve the problem of user-unfriendly RMS file reorganizations, RMSREO evaluates the header portion of an RMS indexed file on

RSTS/E systems, determines if reorganization is needed, and executes standard RMS utilities to reorganize the file without any need for the user to know or understand the RMS utilities. The only user prompts are filename and fill factor, which defaults to the previous fill factor. RMSREO thus makes it easy to keep RMS indexed files efficient without technical knowledge.

**Price:** \$500

**Contact:** Gary Vowels  
(206) 325-2200

MANUS SERVICES CORP.  
1130 Rainier Avenue South  
Seattle, WA 98144

### **RO.MAC MT ROLLIN File Device Driver**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Disk utilities

This device driver allows the user to access one disk rollout on a magtape containing any number of rollouts and to treat the file as if it were a file-structured device. The specified rollout file is then the pseudo-disk RO:, available to the user for any operation that does not involve writing on the magtape (RO:). DECUS number 11-226.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **ROU: Receive Queue and File Scan Utility**

**PDP-11 Operating System:** RSX

**Keywords:** • Printing • Software utilities

Memory required: 8K words.

ROU's three main functions unlock files by saving the contents and fixing the header(s); list tasks-received queues and, especially with the print spooler, modify the queue by removing packets, killing the current print without deleting the queue, and moving a packet (file) to the front of the queue (to be printed next); and scan files to find the spooler restart point, or to cut files into smaller pieces, or just to sort small files from big files. DECUS number 11-379.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RT-11 to UNIX\* Transfer Utilities**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • File transfer • Programming tools  
• Software utilities

These utilities provide routines for accessing RT-11 file systems from UNIX\* systems. Facilities include reading, writing, and deleting RT-11 files; initializing RT-11 file systems; and obtaining directory listings.



Written in the C programming language, the utilities are portable to any UNIX\* system. All routines allow for multiple RT-11 directory segments, thus making the package useful for maintaining large RT-11 file systems, as well as floppy-based systems.

RT utility commands are entered to the UNIX\* shell, so a user has full use of such shell facilities as I/O redirection, pipes, filters, and file name expansions. In addition, RT utilities support RT-11-type wildcards.

\* UNIX is a trademark of AT&T Bell Laboratories.

A version of this product is available for VAX computers.

**Price:** \$500

**Contact:** Douglas J. Ross, Vice President  
(613) 548-4355

ANDYNE COMPUTING LTD.  
544 Princess Street, Suite 202  
Kingston, Ontario K7L 1C7 Canada

## RT-DBASE

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Data base management • Project management

RT-DBASE is a package of mailing list/data storage programs written in FORTRAN and MACRO. The menu-driven RT-DBASE programs store, alter, search, and do housekeeping for the disk data base.

In addition to the usual name, address, and telephone data, the data base structure contains nine 6-byte user spaces with each entry for date of last contact, type of client, tax status, and spectra-on-file type data.

The data base is formatted on disk so that it can be inspected directly. Direct file modification, even a data file deletion, will not cause the data base maintenance system to crash. Interface subroutines for the user spaces are very easy to write, as are routines for general access to the data base.

The RT-DBASE package includes well-documented source code and a printed instruction manual.

A version of this product is available for VAX computers.

**Price:** \$350

**Contact:** Robert Peckham, Vice President  
(213) 849-4082

COMPUTER PROGRAMMING SERVICES  
1925 W. Glenoaks Boulevard  
Glendale, CA 91201

## **RT-NEWUSER V2.0**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Language enhancers • Programming tools  
• Security

RT-NEWUSER is a collection of more than 90 FORTRAN and MACRO subroutines and other items to speed up programming and help overcome the problems a new RT-11 user encounters. In addition, RT-NEWUSER tools can help the experienced RT-11 user eliminate input conversion errors by using "ASK" subroutines, do VT100 screen control with simple subroutine calls, and protect programs from unauthorized use with password function MONKEY.

The RT-NEWUSER programs, subroutines, and functions are supplied as easy-to-follow, well-documented FORTRAN and MACRO source.

A version of this product is available for VAX computers.

**Price:** \$350

**Contact:** Robert Peckham, Vice President  
(213) 849-4082

COMPUTER PROGRAMMING SERVICES  
1925 W. Glenoaks Boulevard  
Glendale, CA 91201

## **RTRSX: An RT Program to Read RSX Disks**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion

Memory required: 10KW.

RTRSX reads files and directories from an RSX-11 (ODS1) file system (disk). A directory option lists the file names from any UFD present on the RSX device. RSX text files with variable records are converted into RT stream files. Binary files and files with embedded carriage control can also be transferred. RTRSX can convert RSX text files that are on an RT-11 disk. This version works with DL: and DM: handlers. RTRSX was adapted from the UNIX\* program GETRSX, which is also included. DECUS number 11-646.

\* UNIX is a trademark of AT&T Bell Laboratories.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **RTSORT™**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Data conversion • Disk utilities

This high-performance disk file sort program can be used to sort large disk files, create sorted output files that are subsets of input files, merge multiple input files into one sorted output file, and convert disk files from one data file format to another (for example, from sequential DIBOL to relative COBOL). RTSORT is designed to sort large disk files



rapidly, using the highly efficient replacement-selection algorithm, and is written in assembly language to achieve maximum speed. Processing time is overlapped with I/O time to the fullest extent, and buffer sizes are dynamically determined, based on available memory space.

While sorting random-ordered records on a 56KB PDP-11/23 with RL01 disks, RTSORT will sort 5000 200-byte records in approximately 2 minutes and 10 seconds. Since the sort is controlled by a simple command line, setting up a sort on a new file or key is fast and easy. Up to six input files can be specified. RTSORT can be directed to include certain records in the sort (record selection) or to include in the sorted records only selected fields from the input records (field mapping).

Generally, RTSORT requires less than 1.2 times the input file size for sort work files. The work files can be split across two disk drives and do not have to be on the same disk as the sort input or output files. The sorted output can be either written to a new file or directed back to the sort input file (an in-place sort).

RTSORT can be used to sort data files produced by COBOL-Plus (including ISAM files), DIBOL, DBL, FORTRAN, BASIC, Pascal-2, and most other languages that run under RT-11, as well as text files. FORTRAN binary (unformatted) and DIBOL or DBL ISAM files are not supported. The input and output file types can be specified separately to RTSORT, which converts from one data file format to another. Records sorted by RTSORT can be of variable length.

RTSORT can be run directly, chained to, or run under TSX-PLUS as a detached job and called by the TSX-PLUS interjob message communication facility. RTSORT can be invoked directly from COBOL-Plus, DBL, and FORTRAN programs.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$200 - \$450

**Contact:** Gary Manookian, Domestic Sales  
(615) 327-3670

S & H COMPUTER SYSTEMS, INC.  
1027 17th Avenue South  
Nashville, TN 37212

## SAVER

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Disk utilities  
• File transfer • Operating systems

SAVER, a direct replacement for the standard PDP-11 RSTS/E backup utility, is an excellent tool for restructuring disks to maximize the performance of the RSTS/E system and provides substantially improved speed and flexibility. In addition to its ability to save and restore data from disk and tape, SAVER permits the user to transfer files and to save accounting data and file attributes. SAVER creates bootable

PIP-compatible tapes that are ideal for easy recovery after a catastrophic failure.

**Price:** \$1250

**Contact:** Karen Ackland, Marketing Manager  
(714) 970-1515

DATA PROCESSING DESIGN, INC.

1400 North Brasher Street

Anaheim, CA 92807

### Select

**PDP-11 Operating System:** RSTS

**Keywords:** • Programming tools • Software utilities

This general RSTS/E record-extraction package is useful, for example, as the front end of a report-generating application: Select quickly extracts from an input file records meeting user-specified selection criteria. The extracted records are written to an output file after optional modification by key field deletion, rearrangement, and transformation through user-written MACRO-11 functions. Fields in an input record are named and described in a succinct notation that tells where they are; where to put them, if necessary, in a corresponding output record; and how to use them to sort the output file that Select creates. Fields can be ASCII strings, integers, or floating-point numbers. For producing "tag" files, a field can be placed in each output record to point to the input record that generated it. Records are selected by Boolean combinations of comparisons of fields against constants. Input files contain fixed-size records. The fixed-size output records are no more than 512 bytes long. The time-critical components of Select are written in MACRO-11.

A version of this product is available for the VAX computer.

**Price:** \$1500

**Contact:** Martha Scott  
(617) 861-0670

EVANS GRIFFITHS & HART, INC.

55 Waltham Street

Lexington, MA 02173

### Single-Disk DOPTER

**PDP-11 Operating System:** RSTS

**Keywords:** • Disk utilities

This disk-optimizing program operates on a single disk and needs no other storage device. Single-Disk DOPTER performs the most important optimizations performed by DOPTER and includes the UFD Optimizer. Single-Disk DOPTER is easy to run, without disk packs or tapes to shuffle. Running the program with a 1-line CCL command improves performance. Single-Disk DOPTER is ideal for systems with a single, nonremovable disk.



**Price:** \$450

**Contact:** William R. Davy  
(614) 764-1585

SYSTEM PERFORMANCE HOUSE, INC.

5522 Loch More Court

Dublin, OH 43017

### **SKIPAG: File Utility to Skip Blocks/Pages**

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Programming tools  
• Software utilities

Memory required: 4KW.

This BASIC-PLUS software utility is used for skipping a specified number of blocks of pages in a RSTS/E data file. This program can skip to the middle or end of a print file to resume printing at a specified point or create subfiles from ASCII data files for use as test data files. The input file can be any RSTS/E ASCII file. The output file can be another disk file or device, such as a terminal or a printer. Either blocks or pages can be specified to the program; both a starting block (or page) and how many blocks (pages) to be copied are optional. DECUS number 11-712.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SKYPORT**

**PDP-11 Operating System:** RT-11

**Keywords:** • File transfer • Networking

SKYPORT is an easy-to-use, flexible data-transfer program that enables even the nontechnical user to copy or transfer files from one operating system to another. With SKYPORT, source and binary files on a diskette can be transferred among the following operating systems: RT-11, UNIX\* V7, ISIS-III, CP/M, and Idris (UNIX\* V6). SKYPORT transfers files from one diskette to another, displays the directory of a diskette, and dumps the contents of the diskette to the CRT.

SKYPORT requires a PDP-11 or an LSI-11 system with RT-11, 28K words of memory, and either two diskette drives or one hard disk and one diskette drive. Information must be stored on single-sided, single-density diskettes.

SKYPORT is self-instructing. User specifications are entered by menu selection or through response to direct query. The user-friendly responses are standardized, and all prompts are structured to minimize user input. Also, to assist lengthy operations, such as transferring multiple files, SKYPORT provides current file status. Other user-oriented assistance is automatically provided. For example, errors in user option selection are recognized immediately while system errors,

such as diskette read/write faults, are reported and the program returned to the main function menu.

Both interactive single-file transfers and multiple-file transfers from lists are provided. A multiple-file list can be generated during SKYPORT execution or read from a user's secondary file.

\* UNIX is a trademark of AT&T Bell Laboratories.

**Price:** \$500

**Contact:** Joe Germann  
(617) 454-6200

SKY COMPUTERS, INC.  
Foot of John Street  
Lowell, MA 01852

### **SLDRV: A Memory-Resident Disk Driver for RSX-11**

**PDP-11 Operating System:** RSX

**Keywords:** • Device drivers/handlers • Disk utilities  
• Source code control

Memory required: 2KB.

Compilers, assemblers, and the task builders are often slowed by seek latency of the system disk(s) when accessing system libraries. The need for many disk seeks tends to degrade performance compared to disk operations performed at memory-to-memory speeds. This problem is noticeable on multiuser development systems and is particularly critical on machines with a single disk.

With the increasing popularity of 22-bit PDP-11s (11/23-PLUS, 11/44, 11/70, and MICRO-11) and the decreasing cost of semiconductor main memory, libraries and work files can be stored in main memory on a memory-resident disk, where each K word of memory equals four disk blocks.

This package includes source files, build command files, and run-time control command files to build and use a 512-block memory-resident disk on RSX-11M-PLUS. DECUS number 11-634.

**Restrictions:** Operates only on a 22-bit CPU due to large data area memory requirements.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SLIB.BAS: Library Maintenance Program**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Documentation tools  
• Software utilities

This program maintains library files of associated programs, documentation, or specifications. The program allows the user to extract, add, delete, take directories, erase extract flags, and compress out deleted entries. The syntax of those commands is expanded in the documentation. DECUS number 11-581.



**Restrictions:** The program does not store .OBS files but does store .OLB and .TSK files. Any completed files will lose their protection and contiguous attributes on extract.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SOLUTIONS DECK Dictionary**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Data dictionary  
• Query facilities

SOLUTIONS DECK Dictionary is designed to interactively produce complete file descriptions and open statements in a matter of minutes. The dictionary is driven by the user's replies to an on-line, interactive dialog. The user is guided in describing any file with maximum use of defaults. The open statement and file description are created from user replies or defaults.

The dictionary quickly and accurately describes any RMS-11 file type and ensures consistent file descriptions and the existence of only one named version. Through use of channel assignments, all files have unique line numbers to prevent later line number problems when several dictionaries are used in one program.

SOLUTIONS Dictionary belongs to the family of SOLUTIONS DECK preprocessors, designed to support all program types found in an on-line commercial environment, and should provide a 100% productivity improvement, even in casual use.

A version of this product is available for VAX computers.

**Price:** \$250

**Contact:** W. R. Hallam  
(506) 455-1008

SOLUTIONS DECK

P.O. Box 684, Station A

Fredericton, New Brunswick E3B 5B4 Canada

### **SORT: Fast Memory/Disk Sort/Merge for RT-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities

SORT is a general-purpose high-speed RT-11 memory/disk sort/merge utility program capable of coping with files as large as RT-11 can manage. Sorting may be ASCII or alphanumeric. DECUS number 11-660.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SORT for RT-11 for the Professional 300**

**PRO Operating System:** RT-11

**Keywords:** • Disk utilities • Software utilities

This general-purpose, high-speed RT-11 memory/disk sort/merge utility program can cope with files as large as RT-11 can manage. Sorting can be ASCII or alphanumeric. DECUS number PRO-108.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SORT: Generalized File Sort Utility**

**PDP-11 Operating System:** RSX

**Keywords:** • Software utilities

Memory required: 8K.

This utility sorts records from any input device on up to 20 keys, placing sorted, fixed-length data on any output device. The sorting subroutine package may be placed in the SYSLIB and called in any user-written program. DECUS number 11-292.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SORT (Singleton's Sort)**

**PDP-11 Operating System:** RSX

**Keywords:** • Software utilities

Memory required: 189 words.

SORT, a MACRO-11 version of Singleton's Sort (CACM Algorithm 347, March 1969), uses an RSX-11M operating system and is designed to use the FORTRAN IV-PLUS calling convention. The program can also be called from any other language using the same calling convention and should be able to work with any other operating system. SORT is approximately four times as fast as the corresponding FORTRAN version (taken from the CACM writeup) in each case. DECUS number 11-445.

**Restrictions:** The sort array is limited to 16,383 entries.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SORT: Utility ASCII Sort**

**PDP-11 Operating System:** RSX

**Keywords:** • Disk utilities • Software utilities

Memory required: 14.5KW.

This multiuser task sorts sequential files, either formatted or unformatted, in ascending and/or descending order. Run time is approximately linearly proportional to the number of records input, record length, and the number of sort keys. Sample run time: 4000 240-byte records (55-byte keys) in 18 minutes (PDP-11/70, RP04). DECUS number 11-359.

**Restrictions:** The input file is limited to 40,000 records. Sort keys are limited to 80 bytes. The maximum record length is arbitrarily set at 1200 bytes but can be modified.



Note: This version contains descending-order sort capability, has expanded allowable record length, and has fixed glitches in use of indirect command files.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **SORT/MERGE**

**PDP-11 Operating System:** RSX

**Keywords:** • Software utilities

This utility (formerly SORT-11) for the RSX-11M and RSX-11M-PLUS operating systems can accept as input up to 10 RMS-11 formatted files and will produce as output one reordered RMS-11 formatted file. Records can be sequenced in ascending or descending order by as many as 16 key fields, with a maximum total key size of 512 bytes.

SORT/MERGE features fixed-length, variable-length, variable-with-fixed-control (VFC), and RMS stream-record formats. The types of file organizations are sequential, relative, and indexed. (If more than one input file is used, each file can have a different organization and record format.) The sorting processes are record sort, tag sort, index sort, and address routing sort.

Commands to PDP-11 SORT/MERGE can be issued interactively, by means of the standard command line interface, or through the specification file created by the user. PDP-11 SORT/MERGE routines are used directly by COBOL-81 through the COBOL SORT and MERGE statements.

PDP-11 SORT/MERGE includes a package of callable subroutines that allow many other PDP-11 languages to execute a sort or a merge. Those subroutines accept for input either records one at a time from the host program or file specifications. The output can be either records one at a time or a complete file, regardless of the input mode.

Refer to SPD #12.07.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$80 - \$410

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **SOS: A Program for Saving Deleted Files**

**PDP-11 Operating System:** RSX

**Keywords:** • Software utilities

Memory required: 8KW.

If you accidentally delete a file on a Files-11 volume, the data and file header are still intact, until reused for another file. You can recover the data with the help of the SOS program, which copies the data to a new file on another unit. DECUS number 11-507.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SPOOL: Foreground Line Printer Spooler**

**PDP-11 Operating System:** RT-11

**Keywords:** • Printing • Software utilities

Memory required: 3K.

SPOOL runs in the RT-11 foreground and lists specified files on the line printer. SPOOL offers several improvements over the spooler in the back of the RT-11 manual, and multiple copies of a file can be requested. Files can be either retained or deleted after printing. DECUS number 11-316.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SPSORT (FSORT3 Emulator)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Software utilities

This direct replacement for E.G.&H.'s FSORT3 is about as fast, needs no scratch space, and costs approximately one-third as much as E.G.&H.'s sort. In addition to being a complete emulation of FSORT3, SPSPORT will also sort DIBOL decimal and EBCDIC types. Furthermore, SPSPORT has no limit to file size or record count.

**Price:** \$1250

**Contact:** William R. Davy

(614) 764-1585

SYSTEM PERFORMANCE HOUSE, INC.

5522 Loch More Court

Dublin, OH 43017

### **SPSORT (Sort-1-Plus Emulator)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Software utilities

SPSPORT, a direct replacement for the OMSI Sort-1-Plus package, runs two to six times faster and needs no scratch space. All functions but the key extract function of Sort-1-Plus are implemented. This sort's versatile interface can be used interactively or through chaining. In addition to the data types supported by the OMSI sort, SPSPORT supports DIBOL decimal and EBCDIC.

**Price:** \$850

**Contact:** William R. Davy

(614) 764-1585

SYSTEM PERFORMANCE HOUSE, INC.

5522 Loch More Court

Dublin, OH 43017



**SPSORT (SORTM/SORTG Emulator)****PDP-11 Operating System:** RSTS**Keywords:** • Software utilities

This direct replacement for DIGITAL's SORTM/SORTG is more than 100 times faster and requires no scratch space. The user need only recompile the sorts, using the same sources as SORTM/SORTG. Furthermore, SPSPORT will not "lose" records from unreorganized DMS ISAM files. This sort is ideal for placing into DIBS- and MCBA-type software.

**Price:** \$450**Contact:** William R. Davy  
(614) 764-1585

SYSTEM PERFORMANCE HOUSE, INC.  
5522 Loch More Court  
Dublin, OH 43017

**Super Sort****PDP-11 Operating System:** RSTS, RSX**Keywords:** • Software utilities

This high-performance sort package for RSX-11M uses a modified quick-sort algorithm. Improved performance is achieved by better I/O management and increased memory use with minimal disk space. Super Sort uses only 20% of the disk space normally associated with sort routines and improves performance with CIS up to 15%. Although supporting only sequential file-structured devices, Super Sort allows for multiple file input, large records, and unlimited key length (ASCII format), using simple extract commands and standard commands.

**Price:** \$800 - \$1000**Contact:** H. B. H. Reporter, Managing Director  
021-355 3511 or Telex: 335797 FOURTH G

FOURTH DIMENSION PRODUCTS LTD.

Fourth Dimension Building, 10 King Edward Square  
Sutton Coldfield, West Midlands B73 6AP United Kingdom

**TABS****PDP-11 Operating System:** RT-11**Keywords:** • Text management

Memory required: 1.7K.

TABS replaces horizontal tab characters in ASCII files with the correct number of blanks for the normal 8-character tab spacing, thus making files with tab characters properly readable by FORTRAN and other programs requiring a strict format. DECUS number 11-248.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)

## **TREAD: Subroutines to Read/Write IBM Standard Label RECFM = FB Magnetic Tapes**

**PDP-11 Operating System:** RSX

**Keywords:** • Data conversion • Diagnostics • Translators

**Memory required:** Approximately 2KW.

This subroutine system allows magnetic tape users to easily read and write IBM-compatible magnetic tapes at 800 or 1600 bpi. The tapes to be read or written may contain data in any size fixed-length records. The logical records may be blocked or unblocked. Input tapes can be properly read if they contain IBM standard labels, nonstandard labels, ANSI standard labels, leading tapemarks, or no labels. Output tapes can be written with IBM standard OS/VS labels or no labels. Translation from EBCDIC to ASCII on input or from ASCII to EBCDIC on output is available to the user as an option. Multiple reel input and output are supported. Input and output tapes may contain more than one data file. The user-friendly subroutines relieve the user from most of the burden of error handling. The routines also include extensive run-time diagnostic messages. DECUS number 11-485.

**Restrictions:** TREAD has not been tested under IAS or RSX-11D.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **UFD OPT (UFD Optimizer)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Disk utilities

This very fast REORDER-like product builds a better UFD structure that lasts longer than REORDER or RDR does. In addition to being able to sort the files in the directories in order by access or creation date, UFD OPT can automatically put the most frequently opened files nearest the start of the UFD. UFD OPT also deletes unused attributes and sets the "contiguous" bit, where appropriate. UFD OPT's proprietary algorithm places the UFD's free space near the start, making new file creation up to 30 times faster than possible otherwise.

**Price:** \$250

**Contact:** William R. Davy  
(614) 764-1585

SYSTEM PERFORMANCE HOUSE, INC.  
5522 Loch More Court  
Dublin, OH 43017

## **VBS (IBM to PDP-11 VBS-Format Magtape I/O Package)**

**PDP-11 Operating System:** RSX

**Keywords:** • Data conversion

The VBS subroutine package permits the PDP-11 to read and write magnetic tape that can be directly accessed by IBM System/370 FORTRAN and PL/I programs in binary (unformatted) mode. Binary



and ASCII-EBCDIC conversion routines allow handling of INTEGER, REAL\*4, and character data. DECUS number 11-280.

Restrictions: All logical records on magnetic tape must contain an even number of bytes. No check is made for this condition.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **VFY: RT-11 Disk-Verification Utility**

**PDP-11 Operating System:** RT-11

**Keywords:** • Disk utilities • Software utilities

Memory required: 3720 bytes.

VFY allows the user to view and verify the volume-ID and owner of a random-access device. This utility program accepts a standard CSI command line that consists of one input device specification and three optional switches. No mandatory fields exist; all four fields have default values. DECUS number 11-638.

Restrictions: MT: and CT: are not handled.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **VMSPiP**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data conversion • File transfer

VMSPiP is a RSTS/E package that reads disks written under VAX/VMS and copies VMS files to RSTS/E media. This extremely fast package optimizes tape-based file transfers from VAX/VMS to RSTS/E. VMSPiP is particularly convenient where a VAX and a PDP-11 share a switchable dual-ported disk. VMSPiP not only preserves the normal RMS attributes of a VMS file but also recognizes and properly copies files created under ROSS/V, EGH's RSTS/E Operating System Simulator under VAX/VMS.

**Price:** \$1250

**Contact:** Martha Scott

(617) 861-0670

EVANS GRIFFITHS & HART, INC.

55 Waltham Street

Lexington, MA 02173

### **XREF**

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Documentation tools • Programming tools  
• Source code control

XREF is a complete external program cross-reference and documentation system. By accessing and cross-relating both program source and object files, XREF provides fast, accurate documentation control.

The XREF utility is used like the LINK (linkage editor) and LIBR (librarian) utilities of RT-11. Input to XREF is the name of program object modules, using the standard RT-11 command line interpreter structure. For each module stated in the command lines, XREF processes its object module, which is normally an RT-11 file produced by a compiler or an assembler. If a module's source program is also resident on the system disk, certain DIGITAL standard program prologs are extracted from the source for inclusion in the final document.

Each page or set of pages in the final document describes the relationship of each module or discovered global variable to the entire system of programs processed. That includes module or global names, the name of the source program language, the source program prolog if available, the modules called by each module, the modules calling each module, other globals referenced, where nonmodule globals are defined, and where nonmodule globals are referenced.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$500

**Contact:** Peter McWha, General Manager  
(613) 225-8750  
LOGICAID LTD.  
154 Collonnade South  
Nepean, Ontario K2E 7J5 Canada

## ZORT

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Disk utilities • Operating systems  
• Programming tools

ZORT is a complete high-performance record-sorting system. The only restriction on the size of files that ZORT can sort is that either the direct-access (disk) storage device containing the file to be sorted or the operating system storage device must also contain a free space at least as large as that file. Record size is virtually unrestricted. No limit is placed on the number of sort keys. Data in specified sort fields may be sorted in ascending or descending order.

The ZORT system can be used in four ways: as a standard RT-11 utility, invoked from a user-written program running as an RT-11 background job, as a CTS-300 TSD utility, or invoked from a CTS-300 user-written TSD program. The latter two methods are invocations from the foreground "XMTSD" variety of TSD. When ZORT is used as an RT-11 utility, the name of the file to be sorted, the type of file (fixed- or variable-length record), the size of fixed-length records, and sort field definitions are entered through the RT-11 system console. The ZORT utility sorts the file or displays an error at the system console, indicating why the sort could not proceed. The ZORT utility user is then prompted for information about the next file to be sorted. The ZORT utility is used like any other RT-11 utility, using the RT-11 standard command string format. The CTS-300 ZORT TSD utility is used in that way also.



The ZORT system may also be invoked from a user-written program. The programmer uses a MACRO-11 macro, a FORTRAN-type subroutine CALL, or a DIBOL subroutine XCALL (under either SUD or TSD). The subroutine or macro parameters indicate the file to be sorted, the sort fields, and so on. After the file has been sorted, program control returns to the next program statement following the macro or subroutine call. That style of invocation saves programmer time when compared with other methods.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$500

**Contact:** Peter McWha, General Manager  
(613) 225-8750

LOGICAID LTD.

154 Collonnade South

Nepean, Ontario K2E 7J5 Canada





# Financial Management



Camerique

### 1040 Tax Planner

**PDP-11 Operating System:** CTS-300, RSTS, RSX, TSX-PLUS™

**Keywords:** • Financial analysis • Financial planning • Taxes

This comprehensive planning tool estimates the current year's taxes and projects taxes for the next three years. The system is programmed to account for legislated changes in the tax laws in future years and allows the preparer to determine the present value of alternative tax situations. The system computes the regular tax, income averaging, alternative minimum tax, self-employment tax, and savings over regular tax. The capability of preparing extensions (Form 4868) is also provided. Data-Tax Planner software is also fully integrated with the Data-Tax 1040 Tax System.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$395

**Contact:** Scott Stearns

(312) 369-2414

DATA-TAX, INC.

710 E. Ogden Avenue

Naperville, IL 60540

### 1040 Tax System

**PDP-11 Operating System:** CTS-300, RSTS, RSX, TSX-PLUS™

**Keywords:** • Taxes

The complete Data-Tax 1040 Tax System prepares 35 federal schedules, associated supporting schedules, recap reports, diagnostics, office billing, client bills, client letters, labels, and as many as 23 integrated state tax systems. Software includes a depreciation system with automatic transfer to the appropriate schedule(s). Pro forma information prints on the actual preparer interview/input sheets. All schedules print on government-approved preprinted continuous forms.

Multiple workstation capabilities, variable file sizes, user-defined file locations, and so forth, give you the flexibility of customizing this system to best meet your office needs.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$995 +

**Contact:** Ken Stvan

(312) 369-2414

DATA-TAX, INC.

710 E. Ogden Avenue

Naperville, IL 60540

### 1040 Tax System

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Financial analysis • Report writer • Taxes



The on-line multiple-terminal 1040 Tax System prepares federal income tax forms, related schedules, and selected state income tax routines. The features include preprinted or computer-generated forms and overlays, automatic pro forma generation, taxpayer systemizer, interview sheets corresponding to federal forms, complete diagnostics, a transmittal letter, selected state tax routines (42 states), automatic taxpayer billing computation, multiple-terminal and remote-terminal operation, automatic update of state return from federal return, exclusive "password" security system, and fast retrieval of taxpayer interview, facilitating individual additions, corrections, and returns.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls

(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL

114 E. Gregory Street

Pensacola, FL 32501

### **A-to-Z Supercomp-Twenty™**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • A-to-Z • Office systems • Spreadsheets

This portable electronic spreadsheet program combines the ease of use common to microcomputer packages with the modeling power of main-frame financial-planning packages. Extensive documentation, on-line help, and user-friendly screen orientation enable the novice to build realistic business plans in a few hours.

The system:

- Contains flexible file handling, command files, custom report generation, and large model space, allowing the system to handle corporatewide tasks, such as budget consolidation, inventory, scheduling, and investment planning
- Draws data from many sources, including general ledgers and most data base packages, permitting a portable modeling activity to be shared among several machines
- Reads files from or creates files for any program using data in a tabular format
- Runs compatibly with programs that format text and data in prescribed fields
- Allows worksheets 999 columns by 999 rows
- Enables the user to redefine the terminal keys and to define new terminal types by editing the terminal definition file

DIGITAL distributes this software product under license from Access Technology, Inc.

Refer to SPD #A3.88.xx when requesting further information on this product from your local DIGITAL sales office.

Supercomp-Twenty™ is a trademark of Access Technology, Inc.

**Price:** \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **ABC (Automated Bank Control System)**

**PDP-11 Operating System:** Independent, RT-11, TSX-PLUS™

**Keywords:** • Banking • Financial analysis • Report writer  
• Spreadsheets

Memory required: 256KB minimum.

This fully integrated software, based on the concept of an interactive central information file, provides banks with an in-house data processing system and a flexible, comprehensive management system. The system, written in DBL, includes a central information file, proof/item entry, demand-deposit accounting, savings, certificates of deposit, loans, general ledger, an easy-to-use report generator, and asset/liability management.

The proof/item entry module handles day-to-day transactions and passes them to their respective modules for update. This module can interface with any proof machine that has data-capture capability.

The daily entries to the General Ledger from DDA, savings, CDs, and loans are automatically posted during the update run. During the update routine, only the terminal that initiated the routine is dedicated to the system to monitor the update. Other terminals are used for other functions by bank personnel.

When you create or modify a report format, the CRT prompts every option. Data from all modules may be combined on one report. Up to 999 report formats (with titles) may be saved for future use. Reports may be displayed on the CRT or selectively printed. Headings and print masks are displayed on the CRT while the report format is being created or modified. Up to four sort keys may be specified for each report, ascending or descending, with optional subtotals on sort breaks. Variable formatted mailing labels with sort options can be created. Mathematical calculations can be used, with up to nine fields used in the formula.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$15,000 – \$30,000

**Contact:** Gary L. Knutson  
(605) 335-3636

**AUTOMATED SYSTEMS, INC.**

3300 S. Madelyn  
Sioux Falls, SD 57106

### **ABC/Analyst**

**PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS, RSX

**Keywords:** • Financial analysis • Forecasting  
• Modeling/simulation • Statistics

Memory required: 120K minimum.



ABC/Analyst, written in FORTRAN, is easy to use for financial and statistical analysis, corporate modeling, and trend forecasting. The system has an open-ended ABC library data base and offers a large inventory of analytical subroutines; or, you can incorporate your own. Interfaces are provided to external IBM files, to data from the general ledger, and from company or econometric data bases. Financial analysis includes discounted cash flow, return on investment, present-value analysis, depreciation schedules, mortgages, loan repayment, compound interest, income tax, inflation, and adjustments. Modeling contains risks analysis using Monte Carlo techniques, goal seeking and backwards modeling, sensitivity analysis, and simultaneous equation modeling. Forecasting offers exponential smoothing, least-squares regression, polynomial regression, confidence limits, interpolation and extrapolation, simple and compound growth, lead/lag seasonal index, moving averages, and rolling forecasts. Statistical analysis consists of standard deviations and so forth, minimums/maximums, frequency distribution, random-numbers generation, and multiple regression. Plotting and bar graphs are available. Calculations include logic, tests, exponentiation, Boolean algebra, logarithms, and trigonometric functions. Well-designed documentation makes ABC/Analyst usable by corporate and market planners, analysts, economists, and managers. Maintenance for the first year is free.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** V. W. Ruskin  
(604) 682-3808

ABC MANAGEMENT SYSTEMS INC.

805 Dupont Street, Suite 3

Bellingham, WA 98225

### **ABC/Financial Planning, Modeling, and Reporting System**

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**Keywords:** • Cost accounting • Financial analysis  
• Financial planning • Forecasting

Memory required: 80K minimum.

This system, written in COBOL and FORTRAN, is easy to use for planning, modeling, budgeting, financial consolidations, forecasting, marketing and capital investment analysis, currency translation, profit planning, acquisition analysis, project and lease analysis, cost allocations, inflation accounting, and variance reporting. A user can add FORTRAN subroutines. Easy-to-use interfaces are provided to external files, data bases, and general ledger. ABC also has its own open-ended library data.

No programmer is needed, because ABC uses an ordinary sheet of accounting paper as input. ABC also provides a reporting and calculation capability that calculates variances from last year, forecasts a compound growth trend, or consolidates financial statements. Users

can define and develop entire reporting systems. Maintenance for the first year is free.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** V. W. Ruskin

(604) 682-3808

ABC MANAGEMENT SYSTEMS INC.

805 Dupont Street, Suite 3

Bellingham, WA 98225

## **ACCESS Financial Systems**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Banking  
• Information management

This complete in-house central information file system features easily installed parameter and menu-driven software modules, personal computer interfaces, and a report generator. The system provides timely management information, government reporting information, consolidated interest reporting information, on-line central information files, daily processing, ongoing regulatory compliance, real-time file maintenance, interbank/intrabank messages, memo post capability, multi-branch/multibank capability, multiple-level terminal-access security, in-depth account analysis, comprehensive training, aggressive conversion support, easy-to-read documentation, and high-speed MICR and central proof item capture for input from SCC reader sorter, IBM, NCR, and Burroughs proof equipment.

ACCESS also has an integrated general ledger with budget monitoring, loan participation management, and full accrual accounting. ACCESS also uses existing transaction codes and account numbers, produces common forms, prepares audit confirmation notices, and supports on-line ATM and teller terminal support.

A version of this product is available for VAX computers.

**Price:** \$25,000 - \$200,000

**Contact:** Steve Nau, President

(417) 881-5057

SPRINGFIELD COMPUTER CONSULTANTS, INC.

1949 East Sunshine, Suite 2-116

Springfield, MO 65804

## **Accounting**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Audit • General ledger • Payroll

This collection of integrated business systems provides improved procedures, reduced paperwork, and timely information for later profitability. This flexible system meets the needs of a small company with a dedicated computer or a multidepartmental organization requiring simultaneous computer access from many locations. Features include



extensive validation of input, comprehensive balancing and batch controls, audit trails, and immediate validation of general ledger; distribution accounts for all companies or organizational units; complete, automatic generation of journal entries for simplified interface with general accounting; simultaneous accommodation of multiple accounting periods, eliminating the need to close one period before proceeding to the next one; vouchers-paid history by vendor; the ability to enter vouchers for standard vendors and 1-time vendors; and automatic determination of scheduled installment payment amounts and due dates.

A version of this product is available for VAX computers.

**Price:** \$3000 – \$5000

**Contact:** E. Jackson Smith  
(301) 296-9032

SMITH, ABBOTT, AND COMPANY, INC.  
300 E. Joppa Road  
Baltimore, MD 21204

#### **Administrator 4/11**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Accounting • Inventory • Order processing

Administrator 4/11 is an integrated accounting and stock control system suitable for any business. The system, also available in modular form, includes accounts receivable, accounts payable, general ledger, payroll, order processing, and stock control packages.

A version of this product is available for VAX computers.

**Price:** \$800 – \$14,000

**Contact:** H. B. H. Reporter, Managing Director  
021-355 3511 or Telex: 335797 FOURTH G  
FOURTH DIMENSION PRODUCTS LTD.

Fourth Dimension Building, 10 King Edward Square  
Sutton Coldfield, West Midlands B73 6AP United Kingdom

#### **AMS (Asset Management Client Reporting System)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Financial analysis • General ledger  
• Investments

AMS is an on-line asset/portfolio investment management system with a fully integrated general ledger to facilitate effective management and full entity reporting (financial statements and investment review). The system performs five basic functions:

- Recording is done through the entry, processing, and posting of capital and income transactions.
- Control is provided by transaction and investment registers, cash statements, income-due reports, and inquiry routines. Every entry to the system produces a complete audit trail.

- Internal/external reporting is presented by investment summaries, income summary reports, transaction statements, and financial statements (balance sheet and income statement).
- Analysis is done on income statements with budget comparisons (year to date and current period), prior-year/period actuals comparison (also year to date and current period), investment registers drawing cost versus market value, indicated incomes, and yields by security.
- Cash management is accomplished by daily cash availability reports showing all entities' current cash balances.

A version of this product is available for VAX computers.

**Price:** \$40,000 – \$80,000

**Contact:** Tom Muskiluke  
(519) 893-4200

DIGITAL BUSINESS COMPUTERS  
133 Manitou Drive  
Kitchener, Ontario N2C 1L4 Canada

### **APPGEN Professional Time Reporting**

**PDP-11 Operating System:** XENIX™

**Keywords:** • Billing • Cost accounting • Project management  
• Scheduling

This program provides the following:

- Reports for projected versus actual expenditures for projects and budget categories within each project
- Employee utilization information showing percentages of available versus charged time
- Project analysis of expenditures for various user-defined activity categories
- Tracking of charges to projects by hours and expense items
- Profitability reports on a project-by-project basis
- Maintenance and reporting of information relating to company costs, project charges, and client billings
- Screen display allowing immediate access to summary information for each project, including budgeted and actual labor and expenses

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Sales Department  
(713) 974-2298 or (800) 231-0062  
SOFTWARE EXPRESS  
2925 Briarpark Boulevard, 7th Floor  
Houston, TX 77042



**ARCHON: FRS (Financial Reporting System)****PDP-11 Operating System:** RSTS**Keywords:** • Accounting • Education • Financial analysis

This generalized system of computer programs provides a sound financial reporting basis for educational institutions and other nonprofit organizations. FRS performs accepted accounting practices in accordance with such models as the Planned Program Budgeting System (PPBS), financial guidelines issued by the American Institute of Certified Public Accountants (AICPA), the National Association of Colleges and University Business Officers (NACUBO), and Handbook II, revised. FRS combines several standard accounting functions, such as budgetary expenditure and encumbrance accounting, revenue or income accounting, accounts payable processing, and general ledger, including financial reporting. Five-year budget versus actual financial data is maintained by the system and is available for analysis, using the extensive reporting capabilities of FRS and our data management system, QDMS. The payroll and personnel system (PAY) and the billing system (BILLS) are designed to interface with FRS.

A version of this product is available for VAX computers.

**Price:** \$14,740 - \$16,200

**Contact:** Ila Sunshine  
(203) 728-6777  
QUODATA CORP.  
266 Pearl Street  
Hartford, CT 06103

**Banker's Credit Management System****PDP-11 Operating System:** RSTS**Keywords:** • Banking • Credit • Financial analysis

This system analyzes financial information provided to a bank by a prospective commercial credit client. Standard-format financial reports suitable for presentation to a credit committee are generated: cash flows, net worth reconciliations, and analytical ratios. Twelve-month and 5-year projections that compute the client's ability to repay a requested loan can be generated automatically.

**Price:** \$3985

**Contact:** Alfred V. Bruns  
(214) 690-1325  
SUNBELT COMPUTER SERVICES, INC.  
9202-B Markville Drive  
Dallas, TX 75243

**Banking — General Applications****PDP-11 Operating System:** CTS-300, RT-11**Keywords:** • Banking • General ledger

This total, commercial on-line banking system processes checking accounts, savings, loans, certificates of deposit, daily statements, and

general ledger. The system has spooling and complete daily backup procedures. The system interfaces to bank proof systems or, for smaller banks, has a batch-entry system. Features include:

- Full inquiry to all files
- Checking with ready reserve or plus checking, automatic transfers from savings, optional trial balance, complete OD and NSF advice print, automatic service charge, and profit-and-loss customer reporting
- A savings system with variable-interest calculation routines, demand statements, automatic transfer notices to checking, annual 1099 print, and all regular exception reporting
- A loan system that includes transaction history for inquiry display with the option of printing history ledgers
- A complete accrual along with call-statement reporting: interest projection report, aged delinquency, maturity tickler advice, and officer and bank-rate analysis along with yields
- Certificate of deposit processing with variable-interest formulas, multiple certificate holder recap, and variable-interest crediting
- Central file and asset/liability management

The system is excellent for banks \$5M through \$500M in deposits.

A version of this product is available for VAX computers.

**Price:** \$20,000 – \$30,000

**Contact:** R. Bud Brummer  
(605) 343-7800

CUSTOM COMPUTER SERVICES, INC.  
P.O. Box 1738  
Rapid City, SD 57709

## **BARON: Principal, Payment, Amortization, and Interest Information**

**PDP-11 Operating System:** RSX

**Keywords:** • Decision support • Education • Investments  
• Modeling/simulation

Memory required: 14,600KW.

BARON provides principal, payment, amortization, and interest information so that the user can study the financial options available in order to make an informed investment/borrowing decision. BARON can also be used to examine the relative merits of various down-payment and interest combinations or to decide, based on what one can afford to make in payments, what amount of money one can afford to borrow. The program's educational value lies in discovering the workings of the world of finance from a practical point of view. DECUS number 11-728.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)



**BASYS (Retail Banking System)****PDP-11 Operating System:** RSTS**Keywords:** • Banking

BASYS is an in-house retail banking system for the complete management and automation of the banking operation. BASYS allows users to conduct real-time processing, with instantaneous updating and retrieval of information at every level of activity and service of a modern financial institution.

The BASYS package of software programs provides highly efficient processing in customer servicing, back-office processing, cash reconciliation and audit, and management controls. Some specific features of the system include savings and loan processing; certificates of deposit; money market, retirement, and checking accounts; variable-rate, mortgage, and commercial loans; integrated general ledger; generalized report generator; and ATM support.

Various configurations are available for the PDP-11/23 to the PDP-11/70 to accommodate customer accounts from \$3000 and up.

**Price:** \$35,000 – \$90,000**Contact:** R. David Fuchs  
(212) 685-1880**GENERAL SYSTEMS CORP.**

100 Park Avenue

New York, NY 10017

**Business Information System****PDP-11 Operating System:** RSX**Keywords:** • Accounting • Financial analysis • General ledger  
• Payroll

This integrated financial package performs payroll, accounts receivable and billing, accounts payable, and general ledger functions and prints financial statements. The system is geared toward professional service firms, such as engineering and architectural organizations, government contractors, and specialty manufacturers.

The system uses interactive processing. Operation can be local or through telephone communications. Personnel with no prior computer experience or training can use the system. English-language prompts are used exclusively.

The system provides an integrated data base for both financial and operations data. Reports with key management information on productivity, costs for each unit, and other performance measures can be provided. The data base and software are available in single- and multiuser versions and can accommodate various kinds of growth. The system offers multicompany processing and automatic verification of data base integrity.

Custom-designed financial statements can be changed with no programming. Financial statements can include both operations data and conventional financial information.

A high level of continuing maintenance and support is available, along with custom tailoring and other special software. Options are a report writer, to provide user-designed nonstandard reports, as well as integrated job cost accounting, order entry, purchase order processing, and inventory control processing.

A version of this product is available for VAX computers.

**Price:** \$9000 +

**Contact:** Janna McMillan

(617) 275-5810

BREUER & CO.

54 Middlesex Turnpike

Bedford, MA 01730

### C-11 Mortgage Banking I

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**PRO Operating System:** P/OS

**Keywords:** • Banking • Calculation aids • Real estate  
• Report writer

This package provides such client information as amount and type of loan, commitment fee, monthly payment, and other closing information. The system computes amortization (monthly payment), annual percentage rate, payment figures for the truth-in-lending disclosure statement, and monthly payment. Reports generated include note, mortgage, closing statement, respa, truth-in-lending disclosure statement, preferred customer forbearance agreement, rate election form, and other documents.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$5000

**Contact:** Denis Peterson

(516) 483-3123

CBM ASSOCIATES, INC.

955 Front Street

Uniondale, NY 11553

### C-11 Report Writer

**PDP-11 Operating System:** Independent, RSX, TSX-PLUS™

**Keywords:** • File management • Report writer

The Report Writer allows customized financial statements and management reports.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.



**Price:** \$1500 - \$3000

**Contact:** Denis Peterson  
(516) 483-3123

CBM ASSOCIATES, INC.  
955 Front Street  
Uniondale, NY 11553

## **C-CALC**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Financial planning • Forecasting  
• Materials handling • Spreadsheets

C-CALC is a menu-driven multidimensional forecasting, planning, data analysis, and modeling package with an interactive help facility and an on-line training procedure. Menus and single-level English-like editor commands aid the inexperienced user. The advanced C-CALC user can use the optional shortcuts to bypass menus and prompts.

C-CALC contains a data importing/exporting facility and worksheet-consolidation feature to use in computer networks and workstations. Entire worksheets or raw data can easily be transferred between computer systems. In addition, worksheet data is transportable between C-CALC and most other applications programs: graphics, word processing systems, general ledger, and so forth.

In addition to the standard spreadsheet features, C-CALC offers a  $736 \times 600$  matrix worksheet area, generates boardroom-quality reports by means of stored print menus, sorts alphabetically or numerically, accesses data on other worksheets, consolidates like or unlike worksheets or portions of worksheets, identifies labels and titles, automates repetitive operations through user-defined procedures, conditionally formats, and offers if-then-else abilities and built-in mathematical, statistical, financial, and logical functions.

Expanded user-defined procedures allow C-CALC to become a programming language. Training, data entry routines, and program interfaces can easily be tailored to a multiuser environment.

A version of this product is available for VAX computers.

**Price:** \$595 - \$3750

**Contact:** Gerald Solomon  
(206) 822-2252

DSD CORP.  
10420 N.E. 37th Circle, Suite A  
Kirkland, WA 98033

## **CALC-11/CALC-11 PLUS**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11, TSX-PLUS™, ULTRIX-11

**Keywords:** • Decision support • Financial analysis  
• Financial planning • Spreadsheets

This 3-dimensional electronic spreadsheet can be as large as 32,767 rows by 32,767 columns, and an unlimited number of spreadsheets can be consolidated. Use of English commands, file encryption, individual-size column widths, 132-character display, and ASCII file interfacing are just a few of the features that make this system so versatile. The spreadsheet can be transferred and used across all the operating systems and hardware configurations. A 1-year warranty that includes telephone support on a toll-free number and software updates at a media charge only are included with the purchase price. Source code is also available.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$750 – \$2500

**Contact:** Chuck Reed

(317) 872-7200 or (800) 428-0714

COMPUTER SYSTEMS CORP.

5540 Rock Hampton Court

Indianapolis, IN 46268

### **Canadian Mortgage Calculation Program**

**PDP-11 Operating System:** RT-11

**Keywords:** • Banking • Calculation aids • Import/export  
• Trade

**Memory required:** 2KW.

The differences between Canadian and American interest terms prevent the application of the American programs to Canadian mortgage calculations. This program calculates the mortgage, using the Canadian system.

For the amount of a loan borrowed at a certain rate, the program calculates the monthly payment required to repay the loan within the amortization period. The program can generate a table to show the amount that is paid as interest and on the principal, the accumulated interest, and the balance of the loan remaining after each periodic payment. The cost of the mortgage in terms of the total interest paid each year and at the end of the amortization period is also given.

The program can handle biweekly or weekly payments. It can calculate a new amortization period following a lump-sum payment at the end of each year during the term of the mortgage and the reduced interest cost that would result from such prepayments. DECUS number 11-768.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)



## Collection-Plus

**PDP-11 Operating System:** RSTS

**Keywords:** • Banking • Credit

Collection-Plus, designed to increase profitability by optimizing the operations of a collection department, can be used by any organization with more than four collection employees. Prime beneficiaries include medical, financial, government, and utilities organizations.

Each collector has a workstation where accounts are presented in order of importance to management. A scheduling program determines those priorities on a daily basis from a list of 64 debtor attributes, including balance, days outstanding, days since last payment or contract, presence or absence of assets, missed or met promises, and so on. The collector is not involved in that scheduling and merely requests the next account on the list. Up to 16 dunning letters (in four languages) can be automatically sent by the scheduler in presort zip code order.

Management can easily change the scheduling criteria. Reports provide the collection rate of individual letters and collector efficiency. Support for a color graphics terminal reveals useful statistical trends. Full accounting and legal processing are included.

The program features unlimited debtor history available in three keystrokes. Accounts are presented to the collector by management criteria. Letters and calls in response to previous debtor activity versus batch processing can be accommodated. Debtors can be matched and linked, thus providing an on-line paperless data base environment. New business can be entered from tape or keyboard. The menu-driven design is very easy to use and learn. Use of the program can triple employee efficiency and yield a 25% increase in collection rate.

A version of this product is available for VAX computers.

**Price:** \$20,000 - \$50,000

**Contact:** Jodd Readick  
(212) 595-8800

INT'L COMPUTER COLLECTIONS, INC.  
Box 443 Ansonia Station  
New York, NY 10023

## Commercial Loan System

**PDP-11 Operating System:** ULTRIX-11, XENIX™

**Keywords:** • Banking • Financial analysis

This system makes data processing a tool for the user and good business for your customers. The Commercial Loan System is written in RM COBOL with alternate keys to enable the user to find loans from just the customer's name. The system tracks past-due loans by loan officer. Other features include payment history file, customer loan reconciliation, monthly revenue reporting, daily transaction listing, and payment-due notices.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$1250

**Contact:** Bob Ginn

(901) 767-3759

INDUSTRY SOFTWARE SALES, INC.

P.O. Box 240804

Memphis, TN 38124

### **County Treasurer's Investment Management**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Banking • Financial analysis • Investments

This on-line real-time system provides complete automation of investment securities. Major advantages to this system include current investment information that maximizes investment income and the ability to easily monitor the security activities at each bank.

Available functions include add, change, and delete maintenance; inquiry of investment master files; and current status of investments and securities at specified financial institutions. Available are an investment report by investment number or by bank, investment detail by date or by maturity date, interest detail by fund or by date, and a securities report by bank.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$4000

**Contact:** James W. Sanderbeck, Vice President

(216) 489-1885

PM COMPUTER SERVICES CO.

630 - 30th Street, N.W.

Canton, OH 44709

### **CUSYS (Credit Union System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Banking

CUSYS is an in-house credit union system for the complete management and automation of the credit union operation. CUSYS allows users to conduct real-time processing, with instantaneous updating and retrieval of information at every level of activity and service of a modern credit union.

The CUSYS programs provide highly efficient processing in member servicing, back-office processing, cash reconciliation and audit, and management controls. Some specific features of the system include share and loan processing, certificates of deposit, money market and retirement accounts, share drafts, variable-rate loans, integrated general ledger, generalized report generator, and ATM support.

Various configurations are available for the PDP-11/23 to the PDP-11/70 to accommodate membership from 3000 and up.



**Price:** \$35,000 – \$90,000

**Contact:** R. David Fuchs

(212) 685-1880

GENERAL SYSTEMS CORP.

100 Park Avenue

New York, NY 10017

### **Data\*Model Spreadsheet Management System**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Financial analysis • Modeling/simulation  
• Planning aids • Spreadsheets

Data\*Model performs consolidated budgeting, variance analysis, profit and cash planning, investment analysis, manpower planning, asset/liability management, liquidity analysis, currency conversion, and many other planning and analysis applications. Data\*Model is ideal for any tedious, time-consuming task that would otherwise be done manually with spreadsheets.

Data\*Model's computerized spreadsheets can contain up to 30,000 rows and 500 columns. Built-in routines include amortization, depreciation, IROR, NPV, loss carryforward, and goal seeking. Complete if/then logic allows users to build decisions into their models. Unlimited numbers and levels of consolidation can be performed. Model-development time and storage requirements are minimized because spreadsheets, data, logic, and report formats can be shared by many models.

A built-in file interface routine allows Data\*Model to interface with other systems, such as word processing, graphics, and accounting, without custom programming.

A version of this product is available for VAX computers.

**Price:** \$995 – \$3000

**Contact:** Van R. Peterson

(206) 232-1515

COMPUTER MODELING INTERNATIONAL LTD.

P.O. Box 1758

Mercer Island, WA 98040

### **DataCalc**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Decision support • Forecasting  
• Modeling/simulation • Spreadsheets

This system for managers, financial analysts, executives, budget officers, and accountants turns DIGITAL business computers into the personal tool needed by business professionals. Your VT100, VT220, VT52, or compatible terminal becomes a window through which you view a portion of your spreadsheet and manipulate numbers. DataCalc lets you play what-ifs. If, for example, you hired a new employee, what

would be the effect on productivity, sales, payroll, balance sheet, and net income?

With calculation and storage routines written in VAX native-mode assembly, DataCalc is one of the fastest electronic spreadsheets available. Since DataCalc is transportable, spreadsheets designed in the field office can be sent to the home office to be analyzed, revised, or consolidated.

DataCalc features help text throughout, individual column widths, batch processor, floating decimal, commas every three digits, file protection, weighted average, 12-digit accuracy, sort, 80/132 column display, 3-dimensional display, blank on zero, loan payment, cell protection, continuous labels, table lookup, and more.

Integrated with A-to-Z, DataCalc is a decision maker's most important tool.

A version of this product is available for VAX computers.

**Price:** \$495 – \$1795

**Contact:** Jon L. Vanderwood

(801) 487-0531

DATATREND

395 Ironwood Drive

Salt Lake City, UT 84115

## Decision Tree

**PDP-11 Operating System:** Independent

**Keywords:** • Banking • Credit • Decision support • Retail

Decision Tree is an entirely new way of evaluating applicants for credit. This system creates a set of criteria, embracing both qualitative and quantitative attributes of applicants for credit, that determines the applicants who are likely to become "good" accounts and those who are likely to become "bad" accounts.

In a typical engagement, Technica's analytical staff selects a sample of applicants from the client's data base, prepares the data, produces the Decision Tree analysis, defines portfolio performance tradeoffs available to the client, consults with the client's data processing staff about implementation of the system, and trains the client's operating staff in the use of the system. The result is a system that increases new-account approvals, reduces bad debts, and improves efficiency.

A version of this product is available for VAX computers.

**Price:** \$33,500 – \$66,000

**Contact:** Gregory Keyes, Sales Manager

(609) 987-2400

TECHNICA, INC.

3 Independence Way

Princeton, NJ 08540



## Depreciation System

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Accounting • Fixed assets • Telecommunications

Memory required: 256K.

This system offers the flexibility of keeping records under three categories of depreciation for each asset: department, class, and subclass. One method can be used for the books; another, for federal tax purposes. Assets can be depreciated on either a one-half- or one-third-month basis. The number of months depreciated is based on the fiscal year. The system offers the choices of depreciating past life to salvage and of switching to straight-line from declining balance at the optimum time.

The sizes of files are determined by your needs and can be enlarged by the operator as needed.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1750 - \$3200

**Contact:** John M. Cohen

(404) 448-5259

COMMUNICATIONS SOFTWARE, INC.

2388 Pleasantdale Road

Atlanta, GA 30340

## DIGICALC™

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Financial analysis • Spreadsheets

This interactive, virtual-memory spreadsheet with 616 rows and columns, a Super Key interface, search function, and 3-dimensional consolidation has keypad and Lotus®-like commands. DIGICALC is compatible with presentation graphics, ASCII files, the Timeline Financial Accounting and GL System, Lotus, and many data base management systems. Many functions and equations are similar to Lotus 1-2-3.™ Lotus-like functions include business/math, statistics, and science.

DIGICALC can be embedded in the Timeline Financial Accounting and GL System for the bidirectional transfer of data. What-if budget projections can be made in DIGICALC, then transferred to the Timeline GL for production of reports in an audited environment.

DIGICALC features boardroom-quality report printing, flexible window and cell formatting, alpha coordinates, split-screen capabilities with synchronous scrolling, user-defined procedures for automating repetitive operations, and built-in mathematical, statistical, financial, logical, and user-defined functions. Users can assign variable names to cells or ranges of cells and use those names in equations, cursor movements, and print commands. Worksheets can be saved on any system storage device, and access can be controlled.

A version of this product is available for VAX computers.

**Price:** \$995 - \$3750

**Contact:** Lawson Abinanti  
(206) 822-3140

WHY SYSTEMS  
10607 N.E. 38th Place  
Kirkland, WA 98033

### **FACS — Patronage Accounting**

**PDP-11 Operating System:** RSTS

**Keywords:** • General ledger • Purchasing • Report writer  
• Taxes

Designed to be used by either tax-exempt or nonexempt cooperatives, this package can be combined with FACS Inventory and the other FACS accounting modules to provide a complete financial management system. The system features direct interface with the FACS G/L; patronage allocations, including tax credit allocations, based on the quantity or dollar value of sales; allocation to departments on an individual department basis, allowing separate multiplier factors (percentage of basis to pay); user-defined minimum check calculation; purchase credits; federal tax withholding and reporting; and up to 26 stock classifications and up to 255 individual departments.

Reporting features include sales reports and summaries by department, customer type, general ledger account, and so on; general ledger posting summaries; a user-defined patron name/address report and a patron's ledger; user-defined prior-year retainage and stock reporting; allocation and dividend registers; and form 1099s. All reports can be printed to the screen or to a hard-copy device.

**Price:** \$3500

**Contact:** Steven L. Buth  
(509) 624-4248 or (800) 824-9631

SPOKANE COMPUTER SERVICES, INC.  
West 915 Second Avenue  
Spokane, WA 99204

### **FACTS V Systems of Tire Control**

**PDP-11 Operating System:** RT-11

**PRO Operating System:** RT-11

**Keywords:** • Information management • Inventory  
• Purchasing • Transportation

FACTS V is an integrated system of computer programs designed to build and maintain a tire data base and to generate a series of reports to provide bottom-line information control over purchasing, inventory, service, maintenance, repair, recapping, warranty adjustments, and equipment down time.



**Price:** \$495 - \$2150

**Contact:** Joseph M. Chelini, President  
(406) 494-3174

MINE DATA COMPUTER SERVICE, INC.  
Box 3033  
Butte, MT 59702

## **FINAL**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX, RT-11

**PRO Operating System:** RT-11, TSX-11

**Keywords:** • Financial planning • Forecasting  
• Modeling/simulation

This multidimensional business modeling program combines spreadsheet and relational data bases with data entry, a report writer, user-specified menus, and extensive calculation capabilities. Each data base has a capacity of up to 4 million numbers requiring only 16M bytes of disk storage. The system has facilities for the input and output of data with other programs. The program is used mainly for multicurrency models, budgets, and multicompany accounts consolidation. The program is identical on all machines.

FINAL is written in BCPL for optimum portability. The program requires a minimum memory of 98K with overlays but becomes resident at 220K and has a memory manager that automatically sizes the program to the available memory.

A version of this product is available for VAX computers.

**Price:** £1000 - £12750

**Contact:** P. Jackson  
(0628) 38980

DATAGRO LTD.

Kings House, 18 King Street

Maidenhead, Berks SL6 1EF England

## **FINAL (Financial Analysis)**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Decision support • Financial analysis  
• Modeling/simulation

This multidimensional financial analysis and modeling system features intermatrix arithmetic for easy consolidation; interactive data entry and viewing for different perspectives on your data; multiple dimensions to give real modeling ability; data definition to shape your model to your needs; an unlimited data base size for large and detailed models; an editor to develop and save your logic and arithmetic; menus that you write; the ability to be used on 8- and 16-bit micro, mini, and mainframe computers; separate printing and report formatting facilities; and the ability to transfer data and logic from external systems.

A version of this product is available for VAX computers.

**Price:** £3500 – £8400

**Contact:** L. Bennett  
(0734) 699777

D. M. ENGLAND & PARTNERS LTD.  
Lytham Court, Lytham Road  
Woodley, Reading  
Berkshire RG5 3PQ England

### **FINAR (Financial Analysis and Reporting System)**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Financial analysis • Financial planning  
• Modeling/simulation • Spreadsheets

This financial modeling system for business professionals performs financial analysis and planning. FINAR is as simple to use as an electronic spreadsheet yet contains many advanced features. FINAR automates budgets that maintain detail at cost center level, then consolidates the detail to several levels for reporting and analysis. FINAR includes the standard financial functions, such as discounted cash flow, net present value, the full range of depreciation routines, internal rate of return, and so on. Data can be accessed from an existing data base or another model. FINAR's on-line tutorial includes 10 learning sessions. Telephone support is available.

A version of this product is available for VAX computers.

**Price:** \$1800 – \$9800

**Contact:** Jim Hotze  
(713) 664-1172

FINAR SYSTEMS LTD.  
6101 Southwest Freeway, Suite 406  
Houston, TX 77057

### **FINESSE**

**PDP-11 Operating System:** RSX

**Keywords:** • Accounting • Decision support • Forecasting  
• Modeling/simulation

Memory required: 32K.

This menu-based, fully interactive forecasting system, written in FORTRAN, runs much more quickly than other compatible systems. Once built, FINESSE models can be queried to look at the implications of changes in interest rates, currency rates, raw-material cost, forecasts, and so forth. FINESSE also performs routine accounting functions, such as budgeting, balance sheet preparation, consolidation, variance reporting, profit-and-loss sheets, investment analysis, and tax calculations. Additional features include a flexible report generator, graphical displays, multiple consolidations, an interface to other systems, sensitivity analysis, target analysis, and automatic progressing of results.

A version of this product is available for VAX computers.



**Price:** £6500

**Contact:** Rod Pugh

(+ 44) 784 34411

P-E INFORMATION SYSTEMS LTD.

Park House, Wick Road

Egham, Surrey TW20 0HW United Kingdom

### **FINPRO (Financial Projection Model)**

**PDP-11 Operating System:** RSX

**Keywords:** • Financial analysis • Financial planning  
• Modeling/simulation

FINPRO predicts balance sheet and profit-and-loss data for up to 12 planning periods into the future. A period can be a week, a month, a quarter, or some other length of time. For example, the model can be used to project gross profit, net profit, operating expenses, administrative expenses, and interest expense and income, as well as cash balances, borrowing requirements, accounts receivable, and accounts payable.

The model can project profits, cash flow, and cash-requirements data necessary for loans; project sales, inventory, and labor requirements for meeting a goal of, for example, a 20% increase in profits over last year; and project sales required for breakeven, 10% gross profit, and 30% gross profit, respectively. FINPRO can also evaluate the impact of different pricing strategies on profitability and evaluate the impact on cash requirements of reducing the average age of accounts receivable.

A version of this product is available for VAX computers.

**Price:** \$1000

**Contact:** Stephen Hoiberg

(617) 275-5810

BREUER & CO.

54 Middlesex Turnpike

Bedford, MA 01730

### **Flexware Job Costing**

**PDP-11 Operating System:** p-System™

**PRO Operating System:** p-System™, XENIX™

**Keywords:** • Cost accounting • Project management

Memory required: 256K RAM.

Job Costing allows contractors, job shops, manufacturers, service businesses, and others to maintain control of projects in progress. Job Costing provides reporting for all levels of management. Costs can be tracked by company, division, department, customer, project, project phase, project subphase, and date. Standard features include hours and costs posted to jobs and job phases, a general provider report, a status by requestor report, and variance analysis against estimates by cost center.

The system can be quickly and easily customized to meet your individual requirements and international standards; provides true multi-user capability, with file and record locking; has a built-in, flexible data base; provides data access through a spreadsheet program; automatically handles multiple companies and departmental accounting; has extensive on-line help, automatic cross-references, a user-friendly report writer and query processor, a graphics option, and windows; runs on most hardware; and has elaborate data security down to the field level.

p-System™ is a trademark of Pecan Systems, Inc. XENIX™ is a trademark of Microsoft Corporation.

**Price:** Available upon request

**Contact:** Denise Ause  
(818) 961-0237

MICROFINANCIAL CORP.  
15404 E. Valley Boulevard  
Industry, CA 91746

### Forced Closed Accounts

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Banking • Credit • General ledger

This system helps banks and financial institutions recoup funds from bad customer accounts by faster and more complete reporting with greater efficiency. The system offers prompted data entry with ability to divide losses from one customer account among six general ledger accounts; full inquiry/change into the data base; standard data base maintenance: creation and resequencing (with resort alphabetically by account holder); and report generation — detailed and abbreviated listings of forced closed accounts sorted by item number or alphabetically, time period reporting, data base health test reports, losses by general ledger account number, ranged reports based on amount lost (sorted descending), selective reports based on who the closing was reported to (retail credit, collection agency), and aged report of losses by GL account number.

The Forced Closed Accounts system can help to recover forced closed losses efficiently.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$1000 - \$2500

**Contact:** Leland T. (Tom) Smith, President  
(512) 692-0953

DATA PROCESSING SERVICES, INC.  
8746 Wurzbach Road, Suite 203  
San Antonio, TX 78240



**FPS80****PDP-11 Operating System:** Micro/RSTS, Micro/R SX, RSTS, RSX**Keywords:** • Decision support • Financial planning  
• Forecasting • Spreadsheets

Developed by EPS Consultants, FPS80 is a complete decision-support system designed to be used by professional people without heavy reliance on data processing staff. The three independent areas for model construction and manipulation are logic (establishing the rules), data (entry of the raw information), and report (production of user-defined reports). The independence of these subsystems means, for example, that different reports can be produced from the same model.

The power of FPS80 is demonstrated in its ability to consolidate group and divisional budgets. Typical applications include investment and acquisition appraisal, currency conversion, resource and manpower planning, and nonfinancial modeling.

A version of this product is available for VAX computers.

**Price:** £6000 – £28,000**Contact:** H. Exton-Smith  
(0272) 24181

RTZ COMPUTER SERVICES

P.O. Box 19, 1, Redcliff Street

Bristol BS99 7JS Great Britain

**FTX Funds Transfer System****PDP-11 Operating System:** Micro/R SX, RSX**Keywords:** • Banking • Telecommunications

FTX, an integrated funds transfer system developed by SEI Corp., completely automates the wire room. FTX supports all major domestic and international wire services from a consolidated data base. The software is modular in design, allowing each user to select those modules needed to support current operations. The FTX software is fully supported, maintained, and regularly enhanced by Precision Business Systems. The bank receives regular software updates as part of the standard FTX maintenance service.

The FTX Funds Transfer System is used by banks in the United States, Europe, and the Middle East, handling from 300 to more than 10,000 transactions a day. The system is written in Pascal.

A version of this product is available for VAX computers.

**Price:** \$100,000 – \$250,000**Contact:** Timothy J. Murphy  
(212) 425-0200

PRECISION BUSINESS SYSTEMS, LTD.

61 Broadway

New York, NY 10006

**GBS (Genesys Banking System)****PDP-11 Operating System:** RSX**Keywords:** • Banking • Data base management • Graphics

This package provides a bank's customers with personal banking within a videotex service. With any terminal that supports the NAPLPS color graphics standard — either a microcomputer with appropriate software or a dedicated NAPLPS terminal — you can enter a dialog with the system and perform on-line banking. GBS acts as a front end to the bank's computer, collecting transactions that are forwarded to the bank's computer for processing. The available transactions are transfer of funds between accounts and bill payment requests. In addition, GBS maintains account information on the bank's customers locally, allowing you to determine your account balances and review scheduled bill payments. This information is transferred daily, by tape, from the bank's computer to the videotex computer. You can also send electronic messages to the bank. Security is provided with two password verification levels; attempted breaches of security are reported. In addition to performing banking functions, you can browse through up to 10 videotex data bases containing any information that the bank wishes to provide, such as locations of bank branches, current interest rates, and details of bank services; other, nonfinancial information can be included to attract customers to the service.

**Price:** \$60,000 — \$100,000**Contact:** Val Smith

(613) 226-8740

GENESYS GROUP INC.

1175 Courtwood Crescent

Ottawa, Ontario K2C 3J2 Canada

**General Ledger****PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™**Keywords:** • Accounting • General ledger • Management  
• Telecommunications**Memory required:** 256K.

This powerful management tool provides Radio Common Carrier businesses with financial information in a variety of formats. The system offers security password protection; balance sheets; operating, budgetary, and comparative statements; change in financial position; detailed general ledger; audit source listings; automatic distributions; payroll earnings records; and a financial report writer.

TSX-PLUS™ is a trademark of S &amp; H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$3350 — \$6000**Contact:** John M. Cohen

(404) 448-5259



**COMMUNICATIONS SOFTWARE, INC.**

2388 Pleasantdale Road  
Atlanta, GA 30340

**General Ledger, Budgeting, and Checkwriter**

**PDP-11 Operating System:** Independent, TSX-PLUS™

**Keywords:** • Accounting • General ledger • Report writer

This on-line, menu-driven system uses the chart of accounts as a master for all screens, based on a fiscal year. Checks are created and printed from vendor files, insurance policies, agent files, and so forth. Special screens allow for journal vouchers and budget entries. The system, written in COBOL, prints uncleared checks, operating journals, general ledger, trial balance, balance sheet, profit-and-loss statements, year to date with comparison to last year's budget, and various year-to-date detail reports. Other features include a report generator for up to five user-defined reports with headings and descriptions.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$10,000

**Contact:** W. W. Leroy, Jr.  
(404) 231-1484

THE SOFTWARE HOUSE, INC.  
P.O. Box 52661  
Atlanta, GA 30355

**GENESYS**

**PDP-11 Operating System:** Independent

**Keywords:** • Banking • Credit • Retail

GENESYS is designed to provide the benefits of modern credit evaluation methods to credit grantors who cannot develop an empirically based system. If you have very few accounts, are entering a new market, or have little or no available data on past applicants or account performance, GENESYS provides an individually tailored powerful hybrid of judgmental and empirical systems at a reasonable cost.

A version of this product is available for VAX computers.

**Price:** \$17,500 - \$29,500

**Contact:** Gregory Keyes, Sales Manager  
(609) 987-2400

TECHNICA, INC.  
3 Independence Way  
Princeton, NJ 08540

**GENSIM-IMPRS Financial Simulator**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Calculation aids • Financial analysis  
• Modeling/simulation

This general simulation package uses the relational data base, provides hierarchical independence and freedom in establishing the model, and provides total interactive model calculation and maintenance. GENSIM features a full set of amortization and depreciation commands, flexible graphics display and multiple plot commands, growth and factor commands, year-to-date and period-to-date commands, flexible model-initiation commands, flexible model updating, a discounted-rate-of-return command, and correlation of historical data and forecasting with the use of resulting regression equations. Reporting features include multiple report and format capability, unlimited report comments, multiple cross-totals and reporting, flexible report heading and descriptions, and report outlining capability.

**Price:** \$3500

**Contact:** Elvin E. Smith or Forrest E. Weddle

(913) 782-8544

RUF CORP.

1533 E. Spruce

Olathe, KS 66061

### **Integrated Inventory Management System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • Accounts receivable  
• Inventory • Order processing

This system for tracking inventory items from their point of origin until they are dispensed to the client enables management to generate reports on items ordered, received, and issued. The package provides monthly activity, stock status, and reorder reports and customized invoices and can be operated in a multiterminal/multilocation environment.

This user-friendly system can be operated in real time during point-of-sale transactions or run by batch for after-the-fact sales. The system provides for retrieval by description, item number, purchase order number, or vendor and processes entries using LIFO, FIFO, and specific identification methods. In addition, a tax base can be built into the system for consistent rate assignment. The programs in this module share files interactively, thus allowing Accounts Payable, Accounts Receivable, and Billing to draw from the same files.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$5000

**Contact:** Helen Abbott

(800) 221-2087 or (in GA) (404) 883-7664

C-PAK CORP.

202 West Haralson Street

LaGrange, GA 30240



**InterFad™****PDP-11 Operating System:** DSM (DSM-11)**PRO Operating System:** MUMPS®**Keywords:** • Financial analysis • Fixed assets • Taxes

This complete on-line, interactive depreciation and fixed-asset system can be interfaced with the InterGL General Ledger and Financial Reporting System or be used stand alone. InterFad can handle any of eight depreciation methods and includes the ACRS laws. The system's options include expensing or not depreciating an asset, defining fiscal periods, and depreciating an asset on any time period (monthly, quarterly, annually, and so on). The system can simultaneously keep track of two sets of records for each asset — one for IRS tax purposes and the other for book purposes.

Assets can be grouped or kept separate. You define asset locations and general ledger and expense accounts. When an asset is depreciated, the accounts are updated automatically, and a complete history report is produced on the desired assets, breaking down the depreciation for a given period of time and showing both IRS and book depreciation.

The system handles investment tax credit and recapture functions. Your investment tax credit is automatically calculated. If you sell an asset, the recapture amount is produced on a report, which is available at any time. Also available is an on-line inquiry function enabling you to check the status and book value of any asset and to show the amount of past depreciation, as well as information about the asset, including salvage value, date purchased, purchase price, investment tax credit amount, useful life, location, method, and G/L and expense account numbers.

Upon request, you can produce reports available in different forms. The reports include an asset-acquisition report, a depreciation report by location, an investment tax credit and recapture report, and a report showing any changes made on an asset. The ability to project future amounts of depreciation allows you to see how much your assets would depreciate each year by using any of the eight methods of computing depreciation and for any useful life and purchase value.

MUMPS® is a registered trademark of Massachusetts General Hospital.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Alexander J. Phillips, President  
(201) 256-7633

INTERACTIVE SYSTEMS AND MANAGEMENT CORP.  
1500 Cardinal Drive  
Little Falls, NJ 07424

### **INTFIN (Internal Financing Package)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing

INTFIN was developed to handle invoices or bills between companies, subsidiaries, or profit centers belonging to one organization. The idea is to reduce the amount of money required to finance operations and thereby to reduce interest expense.

An account is established for each subsidiary, and INTFIN debits and credits the accounts from the information on the invoices.

**Price:** Available upon request

**Contact:** David M. Carson, President  
(816) 931-1896

SOFTFIN

P.O. Box 3354

Kansas City, KS 66103

### **INTRST.PKG**

**PDP-11 Operating System:** RSTS

**Keywords:** • Banking • Calculation aids • Decision support

This package helps banks, credit unions, and savings and loans calculate interest rates. INTRST.PKG, written in Pascal, calculates cost of funds and interest rates on both commercial and amortized notes. The program is designed to protect against usury law suits involving interest rates and to aid in setting loan rates.

A version of this product is available for VAX computers.

**Price:** \$400

**Contact:** David M. Carson  
(816) 931-7610

SOFTFIN

P.O. Box 3354

Kansas City, KS 66103

### **MAGIC\*CALC**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Financial analysis • Financial planning  
• Forecasting • Spreadsheets

Minimum memory required: 64K.

This electronic spreadsheet is written in assembler and is available in RT-11 and RSX-11M versions.

**Price:** \$500

**Contact:** Al Levenberg  
(212) 497-4004

DATA MAGIC

1345 Halsey Street

Brooklyn, NY 11237



**MAPS/MODEL****PDP-11 Operating System:** RSTS**Keywords:** • Decision support • Financial analysis  
• Financial planning • Spreadsheets

MAPS/MODEL combines the flexibility of electronic spreadsheets and the power of advanced modeling languages. MAPS/MODEL is ideal for problems involving multidimensional consolidations, iteration, or sensitivity analysis. Models are easily constructed for applications such as budgeting, cash flow management, and forecasting. MAPS/GRAPH, integrated with MAPS/MODEL, allows you to use your financial planning data for presentation-quality color graphics.

A version of this product is available for VAX computers.

**Price:** \$12,000 – \$25,000**Contact:** Kevin Walsh

(415) 856-1100

ROSS SYSTEMS, INC.

1860 Embarcadero Road

Palo Alto, CA 94303

**Money Orders System****PDP-11 Operating System:** RT-11, TSX-PLUS™**Keywords:** • Banking • Report writer • Sales and marketing

This complete record-keeping system is similar to our Official Checks System except that it is used for tracking money orders rather than official checks. The system has facilities for selling money orders; money order inventory management (in vault and at tellers); generation of reports on individual money orders, money orders by batches, and voided money orders; and full inquiry into the data base.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$1000 – \$2500**Contact:** Leland T. (Tom) Smith, President

(512) 692-0953

DATA PROCESSING SERVICES, INC.

8746 Wurzbach Road, Suite 203

San Antonio, TX 78240

**Multiplan® Electronic Worksheet****PDP-11 Operating System:** ULTRIX-11, XENIX™**Keywords:** • Decision support • Financial planning  
• Sales and marketing • Spreadsheets

This highly visual, easy-to-use, interactive electronic worksheet aids in financial planning and modeling for business or personal needs. The worksheet can be used to predict future financial needs and profitability by answering the user's what-if questions. Multiplan can also be used to perform iteration and sensitivity analysis to indicate a step-by-step approach to a targeting result. Multiplan is menu driven, uses

natural-language commands, and has a thorough help facility. Maximum worksheet size is 63 columns by 255 rows. By using the UNIX\* TERMCAP capability, Multiplan supports most cursor-addressable terminals. The worksheet is backed by SCO's comprehensive software warranty product support services.

Multiplan® is a registered trademark of Microsoft, Inc. \* UNIX is a trademark of AT&T Bell Laboratories. XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$495 – \$2000

**Contact:** Lee Tyler

(408) 425-7222

THE SANTA CRUZ OPERATION, INC.

500 Chestnut Street

Santa Cruz, CA 95060

## **NYPLAN**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Financial planning • Graphics • Spreadsheets

This electronic spreadsheet and financial planning system combines the convenient interaction of a screen-oriented calc package with the power of financial modeling. Ranging from comprehensive reporting to graphics analysis, NYPLAN provides financial statements, budgets, sales forecasts, pro forma financial statements, consolidated reports, and manpower charts.

NYPLAN supports both a hard-copy terminal mode and a special screen mode on most popular terminals. With the screen mode, any model can be entered and instantaneously displayed. The user can create the model in screen or hard-copy mode and alternate between models.

Graphs can be produced on video displays, printers, and plotters. Line charts and bar charts are available and can be produced in either two or three dimensions.

NYPLAN also includes a data base interface for receiving data from other files, a report writer, and an on-line user's manual. The statistics package contains linear regression and risk analysis, and the financial package includes internal rate of return, present value, discounted cash flow, and depreciation. NYPLAN uses standard math rules, including exponentiation and parentheses. Models can be made to prompt for necessary information, and a job stream can be made, instructing NYPLAN to perform a series of events.

A version of this product is available for VAX computers.

**Price:** \$9500 – \$15,500

**Contact:** John Enyedy

(408) 257-7700



NATIONAL INFORMATION SYSTEMS  
20370 Town Center Lane, Suite 130  
Cupertino, CA 95014

### **Official Checks System**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Banking

This complete record-keeping system includes facilities for issuing checks (with daily trial balance report); paying checks (with daily trial balance report); managing check inventory (in vault and at tellers); generating reports on individual checks, paid checks, unpaid checks, and all checks and monthly reports; managing dormant checks (advertising and escheating of dormant checks according to Texas law); handling indemnity-bound checks; and providing full inquiry into the data base and supervisory access to the data base.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$1000 - \$2500

**Contact:** Leland T. (Tom) Smith, President  
(512) 692-0953

DATA PROCESSING SERVICES, INC.  
8746 Wurzbach Road, Suite 203  
San Antonio, TX 78240

### **On-Line Share Registration**

**PDP-11 Operating System:** Micro/RSTS, RSTS

**Keywords:** • Banking • Calculation aids • Investments

This system provides all the facilities needed for the efficient management of even the largest of share registers. Because the system is on line, the registrar has immediate access to the current position of any shareholding. Accounts can be inspected and updated daily if necessary. Once input, all nonmarket transfers and every transfer into and out of the Stock Exchange Pool Nominees (SEPON) are simultaneously recorded on a journal file, which can be printed daily to provide audit control and the new share certificates.

Developed for use with PDP-11s, the system allows you to define the parameters of every register held. Registers of companies with very different share profiles can coexist and be processed on the same computer.

The share registration system also carries out all the calculations and compiles procedures associated with large new share issues and the payment of dividends. As far as possible, the system ensures that this occasional but large volume of processing does not greatly interfere with the normal, everyday registration tasks.

Whenever amendments are made to the share, register traces are left to provide a full audit trail.

A version of this product is available for VAX computers.

**Price:** £15,000 – £35,000

**Contact:** H. Exton-Smith  
(0272) 24181

RTZ COMPUTER SERVICES  
P.O. Box 19, 1, Redcliff Street  
Bristol BS99 7JS Great Britain

## **PAX**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Banking • Financial planning • Investments  
• Taxes

This comprehensive system for the administration of defined contribution pension and profit-sharing plans, including 401(K) and ESOPs, can accommodate trustee or participant-directed investment options with complete subaccounting for up to 99 choices. A consolidated allocation report can be produced with individual participant statements. This fully integrated system has built-in audit trails and query facilities.

A version of this product is available for VAX computers.

**Price:** \$6000 – \$12,000

**Contact:** Susan M. Peterman  
(202) 363-5300

STANLEY E. CLARKE AND ASSOCIATES, INC.  
4801 Massachusetts Avenue, N.W.  
Washington, DC 20016

## **Performance Manager**

**PDP-11 Operating System:** Independent

**Keywords:** • Banking • Credit • Decision support • Retail

This system manages the performance of established accounts, provides management directives, and improves profitability. Performance Manager is developed from an analysis of your accounts receivable master file data tapes. That data is analyzed to identify the behavior patterns of accounts that are most predictive of delinquency and writeoff.

This integrated credit management decision system, organized in simple tabular format, provides clear-cut guidelines for setting credit lines dynamically as information becomes available regarding an account's charging and paying behavior, determining authorization limits, and managing delinquent accounts, including collection prioritization.

A version of this product is available for VAX computers.

**Price:** \$50,000 – \$70,000

**Contact:** Gregory Keyes, Sales Manager  
(609) 987-2400



TECHNICA, INC.

3 Independence Way  
Princeton, NJ 08540

### **Pioneer COMMAND Fixed-Assets Module**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Fixed assets

This module, developed by Pioneer Software International, is an interactive, on-line, user-friendly system for maintaining details of fixed assets and recording depreciation against them. The module is an integral part of Pioneer's COMMAND System for Financial Management, Distribution, and Manufacturing. Pioneer's COMMAND System is written in BASIC-PLUS-2 and requires a minimum of 128K words. Because the system is based on UserWare International's USER-11 Database Management System, extensive on-line inquiry and ad hoc reporting are available.

The standard details held against each asset can be added to by the user through user-definable fields, allowing this module to be tailored easily. A complete narrative listing is maintained of all movements, both financial and nonfinancial, that affect each asset. The financial movements and depreciation provisions automatically interface with the COMMAND General Ledger System.

A version of this product is available for VAX computers.

**Price:** \$6000 - \$16,000

**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006

USERWARE INTERNATIONAL  
2235 Meyers Avenue  
Escondido, CA 92025

### **PLANFAX Actuarial System**

**PDP-11 Operating System:** IAS, RSX, ULTRIX-11

**Keywords:** • Insurance • Personnel

This turnkey system serves the administration of defined benefit pension, profit sharing, thrift, defined contribution pension, target, stock bonus, and ESOP-type employee benefit plans. PLANFAX routinely handles 401(K) multifund accounts and contains TEFRA, DEFRA, and REACT code.

The system may be operated as a single-user system or as a multiuser system for up to 128 users, permitting local and remote users. The system is menu driven but allows the user to write individual programs. Programming knowledge is not necessary. A special environment is not required for hardware systems of up to 16 users.

The system handles most plans, including small, large, insured, and noninsured plans. The administrative system tracks plans and provides an activity log and scheduling. Extensive plan parameters, actuarial tables, and data bases are included.

The system produces  $8\frac{1}{2}'' \times 11''$  or  $14\frac{7}{8}'' \times 11''$  reports, including turn-key client reports. The system can evaluate 100 lives, using decrement costing, and can produce reports in two minutes. A benefit calculator allows automated termination/retirement calculations and options.

PLANFAX includes a data base system, a defined contribution system, and a defined benefit system under the basic product license agreement.

A version of this product is available for VAX computers.

**Price:** \$10,500 – \$17,500

**Contact:** Charles W. Leggette  
(214) 528-8850

ACTUARIAL MANAGEMENT SERVICES, INC.  
4809 Cole Avenue, Suite 350  
Dallas, TX 75205

### **POM/T (Purchase Order Management/Tendering System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Education • Government • Inventory  
• Order processing

This financial and administrative package is designed for colleges, universities, school boards, municipalities, and paragonovernmental agencies. POM/T features purchase order creation, stock and nonstock purchase orders, receiving, stock file maintenance, tendering, and automatic accruals.

A version of this product is available for VAX computers.

**Price:** \$15,000 – \$30,000 (Canadian)

**Contact:** Dennis J. Sakamoto  
(416) 666-3833

S.R.B. INTERNATIONAL LTD.  
Whitby Corporate Centre  
209 Dundas Street E., Suite 205  
Whitby, Ontario L1N 7H8 Canada

### **PORTSIS™ Investment Management**

**PDP-11 Operating System:** Micro/RSX

**PRO Operating System:** P/OS

**Keywords:** • Banking • Financial analysis  
• Financial planning • Investments

This portfolio management application software package enables the professional broker, financial advisor, or private investor to track, maintain, and evaluate multiple client portfolios while presenting them in a clear, concise summary form. The system uses menu-driven commands and on-line help.

PORTSIS™ is a trademark of Advanced Market Technologies.



**Price:** \$425 - \$3500

**Contact:** J. Ryan

(614) 235-1600

THE MONEY GROUP

2344 East Main Street

Columbus, OH 43209

### **PPBS: Budgeting/GL/AR/AP**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Education • Government

PPBS provides the school and municipal central office administrator with a complete fiscal management tool. Financial record-keeping functions are processed on line, resulting in immediate updating of files. Historical data in the current files aids in projecting future budget needs.

The package encompasses a receivables system, a payables system, and a general ledger system. Budget files, vendor files, purchase orders, and expenditure files allow for complete processing. A comprehensive set of reports is available, including federal and state requirements and standard budgetary reports. The package enables the user to implement Handbook II guidelines and to meet state-mandated line-item reporting requirements.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Edward J. Mackniak

(800) 243-3177

SYSTEMS ELEVEN, INC.

One Pomeraug Office Park, Suite 105

Southbury, CT 06488

### **PRO-FPS**

**PRO Operating System:** P/OS

**Keywords:** • Decision support • Financial planning  
• Forecasting • Spreadsheets

This advanced financial planning and modeling system provides quick and easy access to a range of sophisticated modeling features. PRO-FPS was specifically developed for use by financial management personnel without heavy reliance on data processing staff. Financial models are built in English, and the user needs no computer skills or experience.

Once a model has been built, it can be accessed as often as necessary with variable data inputs to report on a variety of what-if situations. Amendments to the model can be made independently of any data already stored.

**Price:** £1250 - £2600

**Contact:** H. Exton-Smith

(0272) 24181

RTZ COMPUTER SERVICES  
P.O. Box 19, 1, Redcliff Street  
Bristol BS99 7JS Great Britain

## PRO/DIGICALC

**PRO Operating System:** P/OS

**Keywords:** • Accounting • Financial analysis  
• Financial planning • Spreadsheets

This interactive, virtual-memory spreadsheet with 128 rows and 616 columns has keypad and Lotus®-like commands. The program is compatible with presentation graphics and ASCII files, Lotus, and many data base management systems.

PRO/DIGICALC features boardroom-quality report printing, flexible window and cell formatting, alpha coordinates, split-screen capabilities with synchronous scrolling, user-defined procedures for automating repetitive operations, and built-in mathematical, statistical, financial, logical, and user-defined functions. Users can assign variable names to cells or ranges of cells and use those names in equations, cursor movements, and print commands. Worksheets can be saved on any system storage device, and access can be controlled.

PRO/DIGICALC worksheets are compatible with VMS and RSTS/E DIGICALC worksheets.

Lotus® is a registered trademark of Lotus Development Corporation.

**Price:** \$275

**Contact:** Lawson Abinanti  
(206) 822-3140

WHY SYSTEMS  
10607 N.E. 38th Place  
Kirkland, WA 98033

## PROFILE — Integrated Banking System

**PDP-11 Operating System:** Independent

**Keywords:** • Accounting • Application development • Banking  
• Data base management

This integrated, on-line bank/thrift processing system provides unlimited flexibility to create and modify any deposit or loan product, customer relationship, report, or screen. The system supports the Customer Information File (CIF), deposits (savings, DDA/NOW, certificates), loans (mortgages, commercial, installment), loan origination and tracking, platform and teller automation, ATM networks, and financial management (general ledger, budgets, fixed assets, and others).

PROFILE was developed in a unique fourth-generation applications generator that gives you the tools to develop applications without data processing support.

A version of this product is available for VAX computers.



**Price:** \$25,000 – \$2,000,000

**Contact:** Stephen K. Ryan  
(215) 296-8877

S.C.A. — SANCHEZ COMPUTER ASSOCIATES  
Phoenixville Park and Charlestown Road  
Malveven, PA 19355

## **Project Delta, Sections G and H: Business and Data Processing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Cost accounting • Distribution  
• Sales and marketing

Section G contains business programs. GSSS, a small system simulator, allows an item to be created, moved through a defined system, and then destroyed. CSHFLO performs up to four cash flow analyses for given cost of capital and computes the rate of return and payback period. GNMVB/GMRGB analyzes securities. GSTKVL performs stock valuation. GTHOR calculates securities EPS growth. TRCK1 calculates breakpoint weights for trucking freight. LEASIN calculates lease income. LOAN performs loan amortization. GIRRPV performs investment return (cash flow) analysis. GRISKA analyzes the risk of capital investment. IATA1 calculates breakpoint weights for air freight. DROIPB calculates the discounted return on investment. GKASSF computes normal price of a warrant. GK COST performs price/earnings ratio calculations. GVOTE simulates committee votes. CPATH, GCPM1, and GCPATH perform critical path analysis. SLSMN is a sales management program. INSTR.UCS gives the instructions data file for SLSMN. LABOR simulates labor and management bargaining. LABSET creates a data file for LABOR. LABOR.DOC is a description of the LABOR program. MARKOW computes efficient securities portfolios. GNPSUM produces figures for GNP, consumption, investment, and government spending from a model in which consumption is a function of income in the previous period. WHEELS simulates the finances of owning and operating a car over 12 months.

Section H contains data processing programs. STOPB simulates a simple digital computer with a defined machine language. BRAIN simulates a simple digital computer with a more complex defined machine language. ADDRES prints addresses on labels. SORT performs an ascending or descending sort on a simple ASCII file. XREF is a BASIC program listing and cross-reference generator. DECUS number 11-159.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## Safe Deposit System

**PDP-11 Operating System:** ULTRIX-11, XENIX™

**Keywords:** • Banking • Financial planning

This system helps financial institution management and personnel evaluate and use the organization's assets more efficiently. The Safe Deposit System, written in RM COBOL, provides alternatives to the traditional numerical access to information, making the system easier to use and learn. Other features include a box-availability report, an activity history file, payment-due notices, and daily and monthly revenue reports. A user's guide and documentation are included.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$1250

**Contact:** Bob Ginn

(901) 767-3759

INDUSTRY SOFTWARE SALES, INC.

P.O. Box 240804

Memphis, TN 38124

## SATURN-CALC™ Electronic Spreadsheet

**PDP-11 Operating System:** Micro/RXS, RSTS, RSX, RT-11

**PRO Operating System:** P/OS

**Keywords:** • Calculation aids • Decision support  
• Financial analysis • Spreadsheets

Memory required: 64K bytes.

This powerful electronic spreadsheet simplifies expense reporting, tightens inventory control, improves sales reporting procedures, and makes accurate business and scientific projections. The system features built-in arithmetic, referential, business, statistical, logical, looping, register, and math operator functions. SATURN-CALC is easy to learn and easy to use. System messages remind you what to do every step of the way, commands are letter-keyed, and on-screen help text is provided.

SATURN-CALC accepts both text and numbers. Text can cross columns for headings or notations. Spreadsheets can be turned into word processing files that can be edited, formatted, and merged into formal reports. SATURN-WP™ data entry files or other ASCII files or binary, fixed-length record files can be loaded into SATURN-CALC for processing. SATURN-GGRAPH™ interfaces directly with SATURN-CALC to automatically create pie and bar charts, US maps, and line graphs.

SATURN-CALC instructions can be nested in a command file, which can then be executed repeatedly on demand. Command files can consolidate information from several spreadsheets.

A version of this product is available for VAX computers.



**Price:** \$600 – \$3900

**Contact:** Michael Raimondi, Marketing Manager  
(612) 944-2452; (800) 328-6145; Tlx 290322 Saturn Edna  
SATURN SYSTEMS, INC.  
6875 Washington Avenue S., Suite 218  
Minneapolis, MN 55435

### **Supercomp-Twenty™**

**PRO Operating System:** P/OS

**Keywords:** • Financial planning • Modeling/simulation  
• Spreadsheets

DIGITAL distributes this software product under license from Access Technology, Inc.

This electronic spreadsheet allows the user to work through a worksheet of numeric and alphabetic information, part of which is seen on the user's screen. On-line help is available at all times.

By entering text (labels), numbers, and expressions in the cells of the worksheets, the user creates a model of the work. Labels can be constrained to show only in the cell they are in or can be shown in as many cells as are needed to show the text, until a nonempty cell is encountered.

The recalculation feature allows the user to change the contents on one or more cells and to see the effects of that change throughout the worksheet. The key feature of answering what-if questions is important to many fields and applications.

Supercomp-Twenty works on a spreadsheet of up to 1000 rows by 1000 columns. The user can move through the spreadsheet with the cursor keys, the GO TO command, or the PAGE command.

The contents of the cell in which the cursor is located are shown at the top of the screen in the entry line, along with any pertinent formatting and cell information. Each cell can be empty (blank) or contain text information, a number, or a function or expression. The user can edit or change the contents of any cell. Cells can be locked to protect accidental changes.

Supercomp-Twenty allows the user to vary the width of a column, establish global format specifications, and individually format any cell. Format choices include dollar and cents, percent, integer or a fixed number of decimal points, or scientific notation. Additionally, cells can be locked or unlocked.

Supercomp-Twenty™ is a trademark of Access Technology, Inc.

Refer to SPD #A2.24.xx (PRO) or #A3.76.xx (VAX) when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$400 – \$4800

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## Tax Planner

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • Financial analysis • Financial planning  
• Forecasting • Taxes

The Tax Planner can be used to project income taxes for the current year and the next two years, based on the current tax law. In addition to the selection of the most favorable income tax method, the system calculates Form 4972 — special 10-year averaging method, self-employment tax, minimum taxes, and alternative minimum tax. Tax Planner automatically calculates taxable capital gains or losses, charitable contributions and medical expense limitations, the marriage tax penalty deduction, nonrefundable credit, and the penalty for underpayment of estimated tax.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bob Sprowls

(904) 434-2685

DIGITAL SYSTEMS, A DIV. OF UCCEL

114 E. Gregory Street

Pensacola, FL 32501

## TECHSCORE

**PDP-11 Operating System:** Independent

**Keywords:** • Banking • Credit • Retail

This credit-scoring system uses advanced optimization techniques, provides a scoring formula that is tailored to your credit goals and easily adjusted to reflect changes in your credit policy, and offers full control over the characteristics of your scoring formulas and the results they achieve.

A version of this product is available for VAX computers.

**Price:** \$33,500 — \$66,000

**Contact:** Gregory Keyes, Sales Manager

(609) 987-2400

TECHNICA, INC.

3 Independence Way

Princeton, NJ 08540

## TMS (Trust Management System)

**PDP-11 Operating System:** RSTS

**Keywords:** • Banking • Financial planning

TMS was written for a trust company to handle a group of small bank trust departments. TMS offers trial balance reporting by bank or trust company, average daily balance based on a security or a group, client statements, assets by location, maturity-due report (range), and easy-to-use password security.



The programs, written in DIBOL and BASIC-PLUS-2, use the RMS file-handling services. The system runs on a PDP-11/73 with RSTS Version 8.0 and DIBOL Version 5.1A and BASIC-PLUS-2 Version 2.2. The software can be customized.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$50,000

**Contact:** Leon G. Hatt

(816) 836-4050

HATT DATA SERVICE, INC.

2528 S. M-291 Highway

Independence, MO 64057

### **ViewComp Electronic Spreadsheet**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Decision support • Financial analysis  
• Spreadsheets

ViewComp, an electronic spreadsheet designed specifically for the UNIX\* environment, offers all the capabilities expected of an electronic spreadsheet. In addition, the data it stores and uses is completely UNIX\*-compatible.

A version of this product is available for VAX computers.

**Price:** \$500 – \$800

**Contact:** Mark Pearson

(415) 824-9300

UNICORP SOFTWARE, INC.

226 Sanchez

San Francisco, CA 94114

### **ZPLAN PLUS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Modeling/simulation • Spreadsheets

ZPLAN PLUS cannot only handle large models — 500 rows and 250 columns — but also produce high-quality reports. The logic section permits you to define functions and subroutines and mix the calculation statements with BASIC statements, thus permitting any complex calculation to be easily stated in ZPLAN PLUS logic. A more sophisticated but extremely powerful facility is direct worksheet referencing, whereby specific row and column elements of the worksheet can be manipulated. Your data can be typed in at the keyboard into one or more data files or extracted directly from files. This direct interface capability is useful when passing information between the general ledger (or data base) and the modeling package.

A version of this product is available for VAX computers.

**Price:** \$1000 – \$5000

**Contact:** Michael Stewart

(441) 942-2282

**ZPLAN PLUS UK**  
 23 Park Road  
 London, KT3 5AE England



## Government



### **CAIRS Government Document Librarian**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Library science

This system was developed by Leatherhead FRA, Leatherhead Surrey, United Kingdom, for government contractors, depository libraries, or any organization that relies on, maintains, or supplies government information. Powerful Boolean searching generates sophisticated or standard reports. Featuring a thesaurus and field decode functions, CAIRS can perform search term explosions. Search strategies can be saved. Later, current awareness profiles can be routinely run or customized.

Data entry validation can be performed on any field, and you can implement your own controlled vocabulary. If an end user requests a document not in the collection, a skeleton acquisition record can be developed. The collection manager can develop and catalog vendor orders, claim and check in new material, and generate source, cost, holdings, circulation, and disposition reports.

Batch modules can accept data from key to disk, word processors, other applications, or data bases. Government data base subsets (NTIS, DOE, and so on) can be imported and merged with internal material as an option.

From outside the United States, contact Information/Documentation, Inc., Box 17109, Dulles International Airport, Washington, DC 20041 (Telex: 903042).

A version of this product is available for VAX computers.

**Price:** \$1800

**Contact:** CAIRS Government Document Library System Sales  
(703) 486-0900 or (800) 336-0800

INFORMATION/DOCUMENTATION, INC.  
Box 46330, The Pentagon  
Washington, DC 20050-6330

### **Campaign Finance Program**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Financial planning • Fund raising  
• List processing

This program supplies candidate and political action committee reporting for federal (FEC) and state requirements. Also provided are itemized receipts, disbursements, contributor lists (A/N), vendor lists (A/N), mailing labels, and contributions by state, city, election, occupation, and ZIP code. The program complies with FEC regulations.

**Price:** \$3000 - \$5000

**Contact:** Thomas F. Karlsen  
(602) 231-9273



KARLSEN & CHRISTENSEN, CPS'S, P.C.

1436 North 44th Street

Phoenix, AZ 85008

### **Dog License System**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Data collection • Information management

This computerized on-line, real-time dog license billing system provides for updating and adding information and for inquiry into existing information. The menu-driven system provides ease of operation, editing and verification of transactions, automatic assignment of account numbers, and automatic verification of tag numbers issued to eliminate duplication.

Additions, changes, and deletions can be made on line. Fees for tag payments, transfers, and duplications can be edited at any time. Adjustments to tag payment amounts and penalty amounts can be made. Tagged dogs that have died can be automatically deleted from the file at the end of the year, thereby preventing tags from being switched to other dogs. Price differences between kennel dogs and personal ownership are handled automatically. Transfer of dog ownership can be made without reentering all the information for the dog. Tag inquiries can be made by both tag number and account number. Dog breeds are referenced by a 3-digit code, eliminating the need to enter the full name.

The Daily Transaction Report shows tag entries made for the day, with a recap showing the number of each type of entry and the income for the day. Other available reports include an alphabetical listing, alphabetical listing by zip code, delinquent alphabetical listing, delinquent alphabetical listing by zip code, breed list, tag listing, unused tag number listing, inactive owners listing, printing of dog license bills, and yearly recap.

A version of this product is available for VAX computers.

**Price:** \$4000 - \$6000

**Contact:** James W. Sanderbeck, Vice President  
(216) 489-1885

PM COMPUTER SERVICES CO.

630 - 30th Street, N.W.

Canton, OH 44709

### **FCI Building and Zoning System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Construction • Information management  
• Property management

Memory required: 32KW.

This module automates the manual-based system of files and documents maintained by a city government's building and zoning department. Menu driven and with defined screen handling, the system

provides automated methods by which building and zoning information can be stored and retrieved for interactive data processing.

The first-line design capabilities of the programs feature storage and print routines. The storage options allow records to be added, changed, displayed, and deleted. The print options allow the tracking of those records with selection range parameters.

The system features building permit and zoning application maintenance, code enforcement handling, and occupational and license generation and print.

Other FCI city government software modules include Police, Fire, and Personnel.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$30,000

**Contact:** Director of Marketing  
(305) 652-1710

FLORIDA COMPUTER, INC.  
99 N.W. 183rd Street, Suite 126  
North Miami, FL 33169

### **FCI Fire System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Information management

Memory required: 32KW.

This system fully automates the files and documents maintained by a city government's fire department. The system features a strong C.A.D. file manager, B.A.N. recordkeeper, and community activity notice base. The software can provide effective, immediate, on-line retrieval of vital data. The programs are menu driven, with defined screen handling and corresponding hard-copy options.

Detailed tracking of all Florida fire incident information for required state reporting is provided, along with an emergency medical services record file. Administrative functions for internal control include departmental inventory, uniform inventory, employee training schedule and shift schedule management, and personnel facilities.

Other FCI city government software modules include Police, Personnel, and Building and Zoning.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$30,000

**Contact:** Director of Marketing  
(305) 652-1710

FLORIDA COMPUTER, INC.  
99 N.W. 183rd Street, Suite 126  
North Miami, FL 33169



**FCI Personnel System****PDP-11 Operating System:** RSTS**Keywords:** • Payroll • Personnel**Memory required:** 32KW.

This system fully automates files and documents maintained by a city government's personnel department. The system allows for the entry of standard departmental payroll data on an individual employee basis. The information stored contains detailed year-to-date tracking of sick leave, overtime, and workmen's compensation, with department summaries.

The software can provide effective, immediate, on-line retrieval of all updated employee wage profiles. A complete history of wage and salary records is maintained, with information available on future wage increases. The programs are menu driven, with defined screen handling and corresponding hard-copy options.

Other FCI city government software modules include Police, Fire, and Building and Zoning.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$30,000**Contact:** Director of Marketing  
(305) 652-1710

FLORIDA COMPUTER, INC.  
99 N.W. 183rd Street, Suite 126  
North Miami, FL 33169

**FCI Police System****PDP-11 Operating System:** RSTS**Keywords:** • Information management • Law**Memory required:** 32KW.

This module automates the manual-based system of files and documents maintained by a city government's police department. The system features a strong interrogation, file manager, B.A.N. recordkeeper, and Field Information Card base and provides effective, immediate, on-line data retrieval. The programs are menu driven, with defined screen handling and corresponding hard-copy options.

The system provides for detailed tracking of property receipts, jail and arrest information, court subpoena schedules, and administrative functions for internal control that include departmental inventory, shift scheduling, personnel facilities, and electronic mail interface.

Other FCI city government software modules include Fire, Personnel, and Building and Zoning.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$30,000**Contact:** Director of Marketing  
(305) 652-1710

FLORIDA COMPUTER, INC.  
99 N.W. 183rd Street, Suite 126  
North Miami, FL 33169

### **GIMS (Government Information Management System)**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Accounting • Financial management • Inventory  
• Payroll

This fully integrated financial management software system for small and medium-size units of government performs general accounting, budgetary accounting, grant/project accounting, and accounts payable. Files supporting each of those functions are shared and updated immediately when transactions are entered.

GIMS accommodates a broad range of management functions. The system's modular structure allows the user to tailor the system for the specific management purposes. Functional modules integrated with GIMS include payroll/personnel, utility billing, fixed assets, purchasing, job cost, budget preparation, accounts receivable, and inventory control.

**Price:** \$3000 - \$28,000

**Contact:** Victor Goldberg  
(212) 872-7732

PEAT, MARWICK, MITCHELL & CO.  
345 Park Avenue  
New York, NY 10154

### **GOV-11: Governmental Management System**

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Accounting • Payroll • Taxes  
• Word processing

This comprehensive interactive system manages small to medium-size county or municipal governments. The software system consists of nine modules: Accounts Payable, Accounts Receivable Sales Tax, General Ledger, Occupational License, Payroll, Property Tax, Sales Tax, Utility Billing, and Word Processing. Each module includes the basic elements included in any financial package, as well as many extras unique to state and federal reporting.

GOV-11 has been designed for governmental entities that are acquiring their first computer system. The system provides user-friendly procedures and a comprehensive, easy-to-understand operating manual.

Each turnkey system includes initial on-site training and continuous support. Program modification and customization are available. A sample packet containing reports, documentation, and forms is available. Dealer inquiries are encouraged.

**Price:** \$15,000 - \$25,000

**Contact:** Robert L. Metzger  
(504) 542-1479



**DIGITAL COMPUTER SYSTEMS, INC.**

31 Darrell Drive

Hammond, LA 70401

**Government-11****PDP-11 Operating System:** RSTS, RT-11**PRO Operating System:** CTS-300, RT-11**Keywords:** • Accounting • Information management

This system provides all the services and capabilities provided in KMK's MAP-11 Municipal Accounts Payable system, MGL-11 Municipal General Ledger/Financial Reporting system, MPY-11 Municipal Payroll system, MAR-11 Municipal Accounts Receivable system, VEH-11 Vehicle Registration/Reporting system, Tax-11 Tax Assessment/Collection system, Voter-11 Voter Registration system, and Appraisal-11 Property Appraisal system. In addition to the wide range of reporting capabilities, Government-11 can be tailored to both in-house and service bureau/time-share environments. The system can be purchased with all the previously mentioned packages, or the packages can be purchased in any combination as needed by the user. All packages use interactive screen entry.

For city governments, substitute UTL-11 Utility Billing/Accounts Receivable system for MAR-11 and VEH-11.

A version of this product is available for VAX computers.

**Price:** \$5650 - \$44,100**Contact:** Ronald R. Kirchhoff  
(806) 293-4286**KMK ENTERPRISES, INC.**

701 Broadway, Suite 204

Plainview, TX 79072-7353

**Government Payroll System****PDP-11 Operating System:** CTS-300, RSTS, RT-11**Keywords:** • Payroll • Personnel • Taxes

This on-line real-time system provides complete computerization of employee pay records, interactive entry and editing of new payroll transactions, and current and year-to-date information available through inquiry. The program handles PERS, SPRS, STRS, and SERS, and its menu-driven technology is easy to use, providing recap information by fund and automatic warrant product for deductions at the end of each fund.

Available are add, change, and delete maintenance functions for files, complete tax withholding if desired, complete fund and department accounting, up to 13 voluntary deductions, temporary deductions, and display of current and year-to-date information on CRT inquiry. Adjustments to an employee's pay become a part of the employee's permanent detail record.

Available are active and inactive alphabetical employee listing; certifying format indicated at end of each department; listing of civil service employees; payroll register; warrants with year-to-date information on stub; monthly recap; deduction registers; monthly PER, SPR, STRS, and SERS reports; quarterly withholding tax reports; individual payroll ledger; W-2 forms; and special reports.

A version of this product is available for VAX computers.

**Price:** \$5000 - \$8000

**Contact:** James W. Sanderbeck, Vice President  
(216) 489-1885

PM COMPUTER SERVICES CO.  
630 - 30th Street, N.W.  
Canton, OH 44709

### **MAMS (Municipal Accounting Management System)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounting • Information management • Taxes

This computer-based information system for small to medium-size local governments includes Fund Accounting (General Ledger, Accounts Payable, Accounts Receivable), Payroll/Personnel Management, Real Estate Tax Collection, Income Tax Collection, and Utility Billing modules. A report and graphics program generator, which integrates to all modules, is also available.

MAMS conforms to all NCGA (National Council on Governmental Accounting) and MFOAC standards. All MAMS-generated financial statements conform to generally accepted accounting principles, and clear audit trails are produced for all transactions within the system. The MAMS system includes the compiled software (source-level code is available for qualified distributors), a 250-page user's guide, and simplified operator charts that assist key personnel unfamiliar with on-line systems. A special distributor program for MAMS is available to qualified systems houses.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$10,000

**Contact:** Ron Morris  
(412) 923-1941 or (412) 269-1700

OPUS, INC.

410 Rouser Road, Airport Office Park, Building #1  
Coraopolis, PA 15108

### **MAP-11 (Municipal Accounts Payable)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**PRO Operating System:** CTS-300, RT-11

**Keywords:** • Accounts payable



This highly flexible method of posting A/P charges and making cash disbursements is done with interactive screen forms designed for posting ease. In the A/P charges posting form, the user is allowed an unlimited number of distributions to the MGL-11 system for each invoice entered. Discount information is assigned to the vendor for automatic display at posting time but can be overridden by the operator. Vendor charges that occur repeatedly can be placed in an automated file for posting on operator demand. Cash disbursements can be made on an individual invoice basis, or a certain dollar amount can be applied to the oldest invoices first (balance-forward method). Checks can be printed following each disbursement session. Unlimited check formats can be accommodated with the user-defined parameter files. All reporting is available for an unlimited date range, on demand by the user. Aging reports detail the invoices that are current, past due, or not yet due. Cash-requirement reporting is also available as a management tool. The MAP-11 system interfaces to the MGL-11 system for automatic posting of A/P information to the G/L.

A version of this product is available for VAX computers.

**Price:** \$925 - \$4000

**Contact:** Ronald R. Kirchhoff  
(806) 293-4286

KMK ENTERPRISES, INC.  
701 Broadway, Suite 204  
Plainview, TX 79072-7353

### **MAR-11 (Municipal Accounts Receivable)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**PRO Operating System:** CTS-300, RT-11

**Keywords:** • Accounts receivable

This system provides the user with an interactive method of posting A/R charges and payments, obtaining historical reports and aging information, and creating statements. Cash receipts can be applied on a balance-forward or open-item basis. Unapplied credits can be posted to accounts until the correct invoice can be matched and paid. The user can design virtually any format for statements and past-due notices with parameter files. Recurring customer account charges can be made. All reporting for management on account dollar activity is available for any date range. Aging analysis for any date range can be comprehensive or by department. Sales tax reporting is also provided by the system. Multiple taxing entities can be accommodated.

MAR-11 operates in a single-user (in-house) environment or in a multiuser (time-share) environment. The MAR-11 system interfaces with the MGL-11 system for direct posting of A/R entries to the G/L.

A version of this product is available for VAX computers.

**Price:** \$925 - \$4000

**Contact:** Ronald R. Kirchhoff  
(806) 293-4286

**KMK ENTERPRISES, INC.**

701 Broadway, Suite 204

Plainview, TX 79072-7353

**MGL-11 (Municipal General Ledger and Financial Reporting)****PDP-11 Operating System:** CTS-300, RSTS, RT-11**PRO Operating System:** CTS-300, RT-11**Keywords:** • Accounting • General ledger

The date-driven MGL-11 system records and reports financial information and allows the user to design financial statements, using parameter files. Tailoring codes allow the user to define the length and the format of the chart-of-account number, the format of the date used for data entry and reporting purposes, and the existence of "proof" copy journals after posting sessions. Multiple posting forms allow a variety of data input forms. Standard and allocation journals allow the user to automate certain postings that regularly are made to accounts for either set dollar amounts or set percentages of account balances. The user can define up to 13 accounting periods for both the current and prior years. Budgetary and prior-year comparison information can be entered. All reporting from the MGL-11 system is available for any user-specified date range. Many different financial statements can be designed by the user, including balance sheets, income statements, loan analysis, ratio analysis, change in financial position, and so on. The system interfaces with payroll, utility billing/accounts receivable, accounts payable, and payroll for a completely integrated accounting system.

A version of this product is available for VAX computers.

**Price:** \$925 - \$4000**Contact:** Ronald R. Kirchhoff

(806) 293-4286

**KMK ENTERPRISES, INC.**

701 Broadway, Suite 204

Plainview, TX 79072-7353

**MPY-11 (Municipal Payroll)****PDP-11 Operating System:** CTS-300, RSTS, RT-11**PRO Operating System:** CTS-300, RT-11**Keywords:** • Payroll

This sophisticated payroll processing, reporting, and check-writing system allows the user to define unlimited pay items and deductions for each employee. Any type of pay or deduction can be used — hourly, salary, piece rate, percentages, and so on. All necessary tax reporting can be captured during the payroll posting. Multiple-state records can be maintained for an employee working in more than one state. EIC calculations and tip reporting can be accommodated. Check registers follow each posting session, detailing each check written. Any changes made to salary amounts during the posting process are noted on the



check register for security purposes. Historical information is maintained for each employee for any date range specified. A tailoring option converts the calculations, screen descriptors, and menu selection to a Canadian payroll system. Any style of check can be accommodated with the user-defined parameter files. The MPY-11 system interfaces to the MGL-11 system for automatic posting of the payroll to the G/L. Governmental reports, such as W-2 forms and quarterly payroll reports, and management-oriented reports, such as pay rate changes, terminations, historical check registers, and so on, are easily generated and printed.

A version of this product is available for VAX computers.

**Price:** \$925 - \$4000

**Contact:** Ronald R. Kirchhoff  
(806) 293-4286

KMK ENTERPRISES, INC.  
701 Broadway, Suite 204  
Plainview, TX 79072-7353

## **MUNIS (Municipal Information Systems)**

**PDP-11 Operating System:** Micro/RSX, RSX

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Payroll

MUNIS, developed by The Computer Center in Maine, was converted to COBOL-81 and modified to conform to Michigan's standard accounting scheme. An integrated multifund municipal accounting system, MUNIS includes the following options:

- **General ledger** — A multiple-fund account structure. Entries to the ledger can be made manually and are automatically made by other subsystems. A report writer allows the user to define custom financial reports.
- **Budgeting** — Contains tools to help plan and prepare the final budget, based on recommendations from department heads and last year's actual expenditures and revenues.
- **Accounts payable** — Includes purchase orders and encumbrancing. Expenses can be distributed among multiple accounts. Manual and automatic check writing is performed.
- **Account receivable** — Keeps track of invoices and cash receipts. Cash received for tax billings is also entered through this subsystem. Revenues can be distributed among multiple accounts.
- **Payroll** — Includes time sheet data entry, check writing, and W-2 form generation and allows salaried, part-time, and hourly employees, with pay periods ranging from weekly to annually. Taxes and deductions are automatically calculated by user-maintained tables.
- **Utility billing** — Handles billing for water and sewer, with user-maintainable rate files, and prints statements and delinquent notices.
- **Tax billing** — Keeps track of property owners, map lots, and personal property data. Tax bills can be printed once or twice a year and can be

sorted by bank. Payments are posted through the cash receipts option of the accounts receivable subsystem.

- Voter lists — Maintains a voter file containing name, address, ward, precinct, and party for each voter. Lists can be printed alphabetically or by ward and precinct.

**Price:** \$12,000 – \$25,000

**Contact:** James D. van Putten  
(616) 392-6941

MACATAWA COMPUTER SERVICES, INC.

1 West 5th Street  
Holland, MI 49423

## MUNIS/PLUS

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Accounting • Payroll • Purchasing • Taxes

This package provides financial control and accounting support for cities and towns. The package implements fund accounting according to GAFF standards and provides general ledger, budgeting, accounts payable, accounts receivable, purchase orders with encumbrancing, tax administration, payroll, voter registration, and water and sewer billing.

The package is written in VAX-11 COBOL for the VMS version and uses the Common Data Dictionary, DATATRIEVE, and the Forms Management System. For the ULTRIX version, the package is written in RM/COBOL.

The package integrates with PTI's REAS to transfer tax values from the valuation package to the tax administration package. From there, tax bills are generated, and the accounts receivable file is updated.

The general ledger number can be up to 7 segments and 19 digits. A quick organization code-access method is also available to reduce the amount of typing.

All packages can be combined or used singly. The general ledger is required for other packages.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$250,000

**Contact:** Walter R. Crosby  
(617) 787-3522

PROPERTY TECHNOLOGY, INC.

90 Windom Street  
Boston, MA 02134

## REAS (Real Estate Appraisal System)

**PDP-11 Operating System:** ULTRIX-11

**PRO Operating System:** PRO/VENIX™, XENIX™

**Keywords:** • Decision support • Real estate • Sales analysis  
• Taxes



This full-featured real estate property tax valuation system serves all sizes of jurisdictions. The system covers condominium and residential, commercial, industrial, and agricultural properties.

The core of the UNIX\* version of the valuation system is the Unify data base management system, which features a forms generator, a query language, a security handler, a menu handler, a report writer, and query by forms. The system is fully table driven, and all low-level code is written in highly portable C. Valuation selection can be done at each screen and can be used to determine the range of valuation changes that may be made.

The VMS version of the system, taking advantage of the VAX Information Architecture, uses the Common Data Dictionary, DATATRIEVE, and the Forms Management System. This version is written in BASIC (user interface), COBOL (valuation routines), and FORTRAN (statistical routines). The end-user code from both versions can be modified for valuation table references.

The system is easily expanded and adapted for local appraisal standards. The system is backed up with a range of services, including appraisal standards training and support, appraisal consulting, revaluation support, phone support, and updates.

VENIX™ is a trademark of VenturCom, Inc. XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$250,000

**Contact:** Walter R. Crosby  
(617) 787-3522

PROPERTY TECHNOLOGY, INC.  
90 Windom Street  
Boston, MA 02134

## RECAP

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Billing • Information management  
• Public utilities

This complete data processing system for municipal governments and governmental utilities includes a consumer billing system (approximately 500 programs) that allows for simultaneous or separate billing of electric, water, sewerage, gas, refuse, and steam. Financial applications are also included to provide payroll, general accounting (fund, encumbrance, appropriations, and budget), accounts payable/purchasing, materials and supplies, and a complete work order cost accounting system, which includes maintenance of continuing property records. This software conforms to all REA, TVA, and DOE accounting standards, as well as to known PURPA regulations.

The system also offers management information applications, including vehicle analysis, bad debt, service order management, fixed assets,

electronic spreadsheet, TVA and outage reporting, transportation, utilicorder, and service order management. An electrical distribution engineering system is available that includes transformer load management, voltage-drop calculations, and switching studies.

A version of this product is available for VAX computers.

**Price:** \$35,000 – \$250,000

**Contact:** S. G. Price

(803) 799-4094

UMS/DIGITAL SYSTEMS, INC.

P.O. Box 12

Columbia, SC 29202

## **Tax-11**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**PRO Operating System:** RT-11

**Keywords:** • Property management • Real estate • Taxes

Tax-11 is a comprehensive interactive ad valorem (property) tax assessment and collection package. It is designed to provide on-line inquiry into taxpayer information and to provide flexibility in maintenance of taxpayer information, discount/penalty rates, property values, exemption values, tax rates, and all information required by a central appraisal office.

Tax-11 can be interfaced with an existing appraisal package for automatic updating of values. Any style of tax roll, tax statement, or 20-day notice can be accommodated with the user-defined parameter files. Included are top-taxpayers and monthly state reports, property-type and taxable-value analyses, reports on taxes lost from exemptions, listings of data files and current-year delinquent taxes, and a payment transaction journal.

A version of this product is available for VAX computers.

**Price:** \$6500 – \$20,000

**Contact:** Ronald R. Kirchhoff

(806) 293-4286

KMK ENTERPRISES, INC.

701 Broadway, Suite 204

Plainview, TX 79072-7353

## **Title System**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Information management • Law • Real estate

This on-line real-time title fee system provides complete computerization of title additions, title voids, replacement titles, inactivation of titles, and recording of duplicate titles. Major features are notation and discharge of liens and the printing of titles, memo titles, and intercounty surrender forms. Inquiry capability of both active and inactive titles by title number or owner's name is provided. Interactive



files are title master file, title history file, lien master file, dealer master file, bank master file, city reference file, and deputy file.

Title System double checks that tapes and files are computed correctly and properly signed, eliminates the need to index titles and to tear apart or sort titles each day, eliminates cancellation of old title when new title is issued, eliminates title search for intercounty surrender forms received and manual title search for notations or discharge of lien, eliminates sorting of intercounty surrender forms issued, and reduces the number of voided titles. In addition, titles have no strike-out or improper alignment, memo titles can automatically be printed at any time, an alphabetical index allows for easy title search without title number, tax forms are prepared by computer, and state reports do not have to be prepared manually.

A version of this product is available for VAX computers.

**Price:** \$4000 - \$6000

**Contact:** James W. Sanderbeck, Vice President  
(216) 489-1885

PM COMPUTER SERVICES CO.  
630 - 30th Street, N.W.  
Canton, OH 44709

### **VEH-11 (Vehicle Registration)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**PRO Operating System:** CTS-300, RT-11

**Keywords:** • Automotive • List processing

This system records, maintains, and reports information about registered vehicles, as well as maintains the file for reporting vehicles to be reregistered. VEH-11 allows office personnel to accurately report information about vehicle registration to the vehicle registrar. Vehicle lists can be printed alphabetically or numerically or by class. The software also generates a report of vehicles due to be reregistered for each month of the year alphabetically or by the validation or tag number.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$5000

**Contact:** Ronald R. Kirchhoff  
(806) 293-4286

KMK ENTERPRISES, INC.  
701 Broadway, Suite 204  
Plainview, TX 79072-7353

### **Vote-R (Voter Registration Package)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Information management • Law  
• List processing

This voter registration package maintains a current listing of registered voters. Unauthorized access is prohibited through the use of

passwords, thus ensuring system security. Voters' names, addresses, and ZIP codes are maintained for mailing purposes. Methods of listing include precinct, district, school or commission, local government, or subsidiary divisions of local governments. A special listing of those voters eligible for voting assistance is also included. The basic breakdowns of voter listing by district, precincts, and so on can be printed either numerically or alphabetically. A supplemental listing of voters added to the list beyond a given date is another of the program's features. Incorporated into this system is an on-line program for adding to or deleting from the items in the file, along with the means to restore those data items if the need arises. This system provides a diversity of print options that also includes the capability of generating labels for all listings.

A version of this product is available for VAX computers.

**Price:** \$750 – \$3000

**Contact:** Helen Abbott

(800) 221-2087 or (in GA) (404) 883-7664

C-PAK CORP.

202 West Haralson Street

LaGrange, GA 30240

### **Voter-11**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**PRO Operating System:** RT-11

**Keywords:** • Information management • List processing

This on-line system provides real-time inquiry into voter registration information — voter additions, changes, and deletions — along with jury lists and automatically updated state files. The software generates registration cards, jury summonses, a combination election/voter/signature list, a list of returned registration cards, a list of voters not reinstated before September, a list of selected jurors, and a random-seating arrangement of jurors. Registration cards can be printed in numeric, alphabetic, or ZIP code order. The voter list and election/poll lists can be printed in numeric or alphabetic order or alphabetically by precinct. The annual purged-voter report lists voters in the order in which they were purged by purge code. Labels can be printed for all voters on the system or for a specific precinct.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$8000

**Contact:** Ronald R. Kirchhoff

(806) 293-4286

KMK ENTERPRISES, INC.

701 Broadway, Suite 204

Plainview, TX 79072-7353



**Voter Registration System****PDP-11 Operating System:** CTS-300, RSTS, RT-11**Keywords:** • Information management • Law

This on-line real-time system provides complete computerized recording of registered voter additions, changes, and deletions along with election accountability, jury lists, and automatic state reporting as required by law. Inquiry capability by county ID number or by name, as well as automatic checking for duplication before addition, ensure accurate, timely voter information. Interactive files include voter master file, state update file, precinct description, state cross-reference, election update, state election update, and annual voter purge.

Voters are sorted alphabetically by precinct, and voter lists are generated to post at polling places. The software generates signature poll books; reports of registered voters by party; jury selection lists and labels; a report by congressional, House, Senate, or court district; and reporting of registration activity to the state. The Voter Registration System also updates monthly the county file from state tape, generates voter lists and labels, creates an annual voter purge list and labels, and generates a voting history (five elections for four years) and accountability reports.

A version of this product is available for VAX computers.

**Price:** \$4000 - \$6000**Contact:** James W. Sanderbeck, Vice President  
(216) 489-1885

PM COMPUTER SERVICES CO.  
630 - 30th Street, N.W.  
Canton, OH 44709

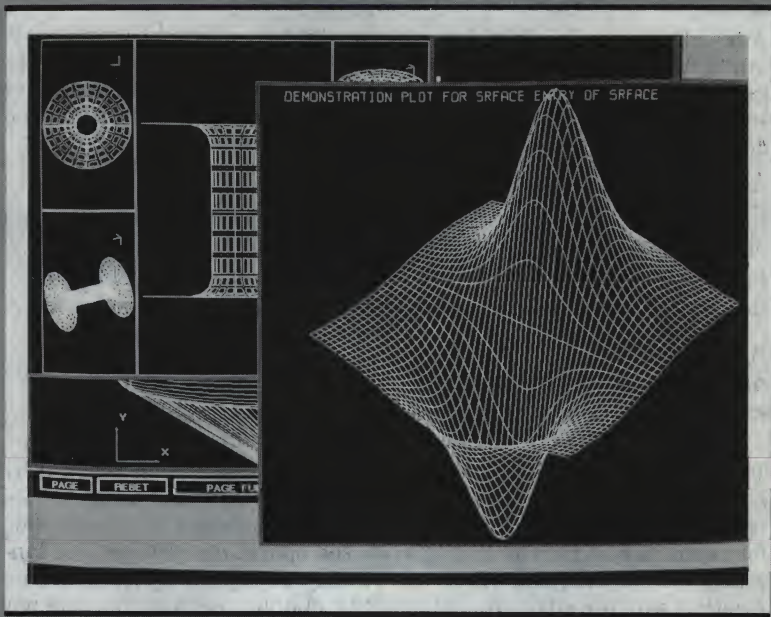
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# Graphics



## A-to-Z Business Graphics

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • A-to-Z • Mapping • Office systems

A-to-Z Business Graphics is an interactive business graphics application that enables the nontechnical user to create business graphs. Aided by picture-assisted menus, a user can input the data to be graphed, design the graph description, and combine them to create a graph file for display on the video terminal or printer. Thus, the data, design, and graph files are maintained independently, permitting modified or new data files to be used with a previously designed graph. Graphs can be created and stored on a file for future use.

A-to-Z Business Graphics uses the capabilities of graphics terminals and graphic-mode printers. On monochrome terminals, graphics images can be represented in black-and-white formats with the use of selected fill and line patterns. On color terminals, graphs can be designed with four colors chosen from a list of 14.

A-to-Z Integrated System is prerequisite.

Refer to SPD #18.19.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$400

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## ABC/GRAF

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Application development • Mapping  
• Presentation aids • Programming tools

This multifile graphics program-generating system can be used by both nonprogrammers and programmers to quickly and easily create ready-to-use business-oriented graphics programs and the source code for them in a variety of DIGITAL-based operating systems and language compilers. ABC/GRAF can readily be superimposed over any existing data file structure. ABC/GRAF enables users to generate bar graphs, deviation bar graphs, pie graphs, and a U.S. map graph. Ready-to-use graphics programs are generated in accordance with answers, called parameters, that are provided by the ABC/GRAF user in response to questions posed on a screen.

A version of this product is available for VAX computers.

**Price:** \$1250 - \$2500

**Contact:** Sales Department

(412) 269-1700 or (800) 245-6190

EXTENDED APPLICATIONS, INC. (EAI)

410 Rouser Road, Airport Office Park, Building #1  
Coraopolis, PA 15108



**Additions to the Roger Williams College Collection****PDP-11 Operating System:** RSTS, RT-11**Keywords:** • Documentation tools • Mapping

- GRAPH.FOR is a RSTS/E FORTRAN IV subroutine that plots up to five simultaneous functions of one independent variable. The output consists of two files: FTN1.DAT contains the plot, which is 100 columns wide; FTN2.DAT contains the tabulated data for the functions.
- FORTRA.HLP, ISOMET.HLP, and XYPLOT.HLP are text files used with the RSTS/E HELP facility. FORTRA.HLP describes the steps for compiling, linking, and running a FORTRAN IV program under RSTS/E.
- ISOMET.HLP and XYPLOT.HLP describe the capabilities and method of access to programs ISOMET.BAS and XYPLOT.BAS.
- RPGBCP.BAS is a user-friendly program that creates a batch control file for compiling, task building, and running an RPGII program under RSTS/E. The program provides step-by-step instructions if the user wants them.

**DECUS number** 11-639.**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**ATHENA/graph™ Presentation Business Graphics****PRO Operating System:** P/OS**Keywords:** • Financial analysis • Forms management  
• Presentation aids

ATHENA/graph produces pictures for analysis, reports, and presentations easily, quickly, and accurately in color or black and white. ATHENA/graph accepts data entered from the keyboard with a standard system editor or files created by other products. Any ASCII data files formatted for ATHENA/graph can also be used. Hard copies of ATHENA/graph color displays can be printed on LA50 and LA100 printers, as well as be drawn on Hewlett-Packard 2-pen and 6-pen plotters.

To design a new chart, pick a model chart that most closely approximates your desired graphic. The chart includes a wide variety of pie, bar, line, and scatter-diagram charts. You can then modify the chart by moving through the screens and modifying the individual chart items on each screen.

When a color monitor is used, you can select a background color for the whole chart and a background color for the data space of a line or bar chart. On monochrome monitors with the extended bit-map option (EBO), you can specify those areas with gray shades. You can also direct ATHENA/graph to automatically reset colors or gray shades to different fill patterns.

**Price:** \$465 - \$1185**Contact:** ATHENA Sales Manager  
(203) 535-3092

ATHENA DIVISION OF SHIP ANALYTICS, INC.  
Route 184, North Stonington Professional Center  
North Stonington, CT 06359

### **ATHENA/slide**

**PRO Operating System:** P/OS

**Keywords:** • Financial analysis • Forms management  
• Presentation aids

ATHENA/slide produces slides for business professionals, managers, engineers, scientists, and technicians. You can create and organize color slides for a professional presentation to be displayed on the screen, printer, or plotter and transferred to 35-mm slides or view graphs. Throughout ATHENA/slide, two levels of help are available: 1-line directives relating to the selected item and full-screen help messages providing complete information about the current screen.

Slides can be saved and referenced or used with other slide sets. Hard copies of ATHENA/slide slides can be displayed on LA50 and LA100 printers or drawn on plotters. Overhead view slides can be prepared.

Nine attribute groups, selected from 9600 combinations, can be set up with any of four fonts (one hardware, three software) in roman or italic and (for software fonts) outline, solid, or filled styles. You can choose from condensed, regular, or extended fonts, any of eight colors for text, and four styles of text emphasis.

**Price:** \$495

**Contact:** ATHENA Sales Manager  
(203) 535-3092

ATHENA DIVISION OF SHIP ANALYTICS, INC.  
Route 184, North Stonington Professional Center  
North Stonington, CT 06359

### **BCP (Barcode/Block Character Plotter)**

**PDP-11 Operating System:** RSX

**Keywords:** • Bar coding • Forms management • Mapping

BCP enables RSX-11M users to generate CODE 39 barcode on the LXY11, LXY21, or LXV11 printer/plotter. The package consists of:

- An interactive user program that permits on-line generation of graphics figures. The graphics figures, generated by library routines, include CODE 39-type barcode, block characters, and horizontal and vertical bars or lines.
- A library of graphics routines that can be linked to user application programs written in FORTRAN-77. Those programs access the BCP library routines to specify designs for shipping, shelf, and identification labels; barcodes; forms; signs; and accounting documents.

Graphics requests are processed into an output format that generates plots on the line printer. The graphics figures are converted into plot lines and points and are resequenced or sorted to correspond to the line



printer paper movement. The resultant rasterized output is then written on an intermediate file. The contents of that file can later be spooled or transferred to the LXY or LXV line printer, through the standard LP11 line printer driver, using the PIP system utility. Direct output to the line printer is permitted by selecting either an ASG task build option or an MCR command (REAS).

Refer to SPD #14.72.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for the VAX computer.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **CalComp Host Computer Basic Software (On Line/Off Line)**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**Keywords:** • CAD/CAM • Device drivers/handlers  
• Engineering

The basic software in the host computer produces data that is read by the CalComp 925 Controller and used to drive the plotter. Or, this host computer basic software drives plotters through the CalComp 906 Controller.

The basic software consists of 10 subroutines used to display graphic output on CalComp plotters. Most of the subroutines are written in FORTRAN; some are in assembly language. The PLOT subroutine controls the formatting of all plotting data and handles all output to the plotter. PLOTS initializes the PLOT subroutine. SYMBOL places alphanumeric text and special symbols on the plotting surface. NUMBER places computed variables on the output page, with user control over format. AXIS plots an annotated axis with tick marks and title. LINE scales and plots arrays of data, with choice of line and/or point mode. SCALE computes factors to scale data from user units to plotter units. NEWPEN permits program selection of pens on multiple pen plotters. WHERE provides current pen coordinates and scale factor. FACTOR sets scale factor for the entire plot.

A version of this product is available for VAX computers.

**Price:** \$500

**Contact:** James F. MacLeod  
(714) 821-2011

CALIFORNIA COMPUTER PRODUCTS

2411 W. LaPalma Avenue

Anaheim, CA 92803

### **CALDGN (CalComp to Design File) Interface Library**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Data conversion

When linked with a CalComp application program executing on an Intergraph-based computer, the CALDGN library intercepts the standard plotting functions and produces a drawing file instead. This smaller, more manageable design file can then be interactively displayed and edited on the Intergraph system, using the basic IGDS graphics procedures.

A version of this product is available for VAX computers.

**Price:** \$2000

**Contact:** Debra P. Bressler  
(713) 266-0000  
EGT, INC.  
11011 Richmond, Suite 700  
Houston, TX 77042

### **CALSIF (CalComp to Standard Interchange Format) Interface Library**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Data conversion

The CALSIF library subroutines emulate the basic CalComp host computer basic software. The routines are written in standard FORTRAN and can be compiled into a relocatable object library on any mainframe or minicomputer that supports the standard CalComp routines. The output of an application program linked with the CALSIF library is an ASCII (or IBM EBCDIC) file of Intergraph standard interchange format (SIF) instructions. When transmitted to the Intergraph system and run through the SIF translator, the final result is a fully compatible Intergraph design file that can be reviewed, edited, and plotted.

This system produces a significantly smaller and more manageable output design file, requires little or no application program modification, and has a virtually transparent operation to the user.

A version of this product is available for VAX computers.

**Price:** \$3000

**Contact:** Debra P. Bressler  
(713) 266-0000  
EGT, INC.  
11011 Richmond, Suite 700  
Houston, TX 77042

### **CCSI-PLOT®**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11, TSX-PLUS™, ULTRIX-11

**Keywords:** • CAD/CAM • Engineering

This package allows the convenient use of a dot matrix printer/plotter as though it were a multipen, incremental X-Y pen plotter. Using CCSI-PLOT, a programmer can easily convert computed data into graphic form, taking full advantage of the available printer/plotter dot resolution. CCSI-PLOT also performs many extended functions that



are impossible on standard pen plotters, including erasing previously drawn lines and shaded areas. The subroutines can be used as the building blocks for constructing user programs to produce bar charts, organization charts, engineering drawings, contour plots, 3-dimensional plots, and perspective drawings.

The CCSI-PLOT package supplies graphics for Printronix P-Series, MVP, and 4160 printers; Trilog T-Series, Tip Series, C-Series Colorplot, and Colorplot II printers; Anadex printers; Epson printers; Okidata printers; Advanced Color Technology ACT-1 and ACT-11 printers; Quantex printers; Integral Data Systems, Inc., Prism, and Color Prism printers; CIE Terminals, Inc., CI300/CI600 and 3500-series printers; QMS Lasergrafix 800, 1200, and 2400 printers; Data Products SPG 8050/8070 (black and white and color) and SPG 8051/8071 printers; AMT office printers; and DIGITAL LA50, LA100, and LN03 printers.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$1950

**Contact:** Catherine Martin  
(213) 595-8607

CERRITOS COMPUTER SERVICES, INC.

4320 Atlantic Avenue, Suite 1  
Long Beach, CA 90807

## **CELLO — A Cell Organization Utility**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Software utilities

This utility package streamlines many of the maintenance functions commonly performed on Intergraph cell libraries. Those functions, which previously required a graphics terminal, are now accessible from low-cost alphanumeric terminals, allowing the graphics stations to continue to perform graphics operations. In addition, CELLO copies, moves, renames, and deletes cells from one or more cell files, allowing cell file manipulation and new-project setup to be performed quickly and efficiently.

CELLO's ability to scale, change origin, modify levels, and edit cell descriptions from an alphanumeric terminal in bulk or in single-cell mode makes the existing methods of cell manipulation virtually obsolete. Documentation features provide for listing cell library contents in summary or in detail and automatic plotting of entire symbology libraries. That feature can be used to generate manuals of project cell libraries for reference and for consistency. Utility functions for compressing, reducing, and creating cell file indexes are also available.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Debra P. Bressler

(713) 266-0000

EGT, INC.

11011 Richmond, Suite 700

Houston, TX 77042

### **CHART: Bar Charts**

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • Mapping • Presentation aids

Memory required: 64K minimum.

This program, written in MACRO, creates bar charts with the colors, labels, and sizes according to user responses to prompts. Graphs appear on the CRT or can be drawn on the plotter.

Prompts, in order, are an "X" title along the bottom of the chart, X-column names (if MTH is entered for the first column name, the system fills in the month names for you), a "Y" title, Y-row 1 value (the value of the first tick mark on the Y-axis), the Y-row increment, and the value to be plotted in each column.

CHART applies to any business or planning function requiring compression of data into a simple-to-understand graphics format. The program is easy to understand, with superior presentation of data and different sizes, colors, and line types for many plots of a graph.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000

**Contact:** Dean Lampman

(513) 874-4499

STARFLO ENGINEERING

4740 A Interstate Drive

Cincinnati, OH 45246

### **CODE (Computer-Oriented Drafting Equivalent)**

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • CAD/CAM • Engineering • Manufacturing

• Mapping

Memory required: 64K minimum.

This multipurpose package, written in MACRO, features 44 easy-to-use commands in a menu-driven, prompt-driven environment. The CODE editor has 14 commands to aid in restructuring existing drawing files. Used with other Starflo software, CODE provides absolute and relative geometric drawing power.

CODE applies to any design or drafting that calls for quick, clean renditions in a variety of scales, colors, and line types; facilitates family-of-parts programming or manufacturing that requires quick redimensioning and work prints; and can interface with tape punch or other



peripherals. The program provides increased throughput, higher productivity, cleaner drawings, multimedia drafting, ease of use, and strong support utility software and enhancement packages.

A version of this product is available for VAX computers.

**Price:** \$500 – \$15,000

**Contact:** Dean Lampman  
(513) 874-4499

STARFLO ENGINEERING  
4740 A Interstate Drive  
Cincinnati, OH 45246

### **Color Trend Plot — System 600**

**PDP-11 Operating System:** RSX

**Keywords:** • Electrical • Energy • Facilities management

This RSX-11M package is designed to run with MCC Powers System 600 Kernel software to display trended data as an X-Y plot by use of a single command.

**Price:** \$5000

**Contact:** Larry Hunt, Manager, Sales Support  
(312) 272-9555

MCC POWERS  
2942 MacArthur Boulevard  
Northbrook, IL 60062

### **Corgraph**

**PRO Operating System:** P/OS

**Keywords:** • Data conversion • Mapping • Presentation aids

DIGITAL distributes this product under license from Corgraph Corporation.

Corgraph provides general business and presentation graphics capabilities for the Professional 350. The system allows you to produce various types of graphs, as well as text-only slides using several type fonts.

Corgraph links to data from other packages to access DIF files, Supercomp-Twenty,™ or any ASCII file; uses the high resolution of the Professional to produce quality graphs on the screen or on a color camera from other vendors; and supports 2-pen, 6-pen, and 8-pen plotters from Hewlett-Packard to produce paper plots or overhead transparencies of graphs or slides.

P/OS hard disk operating system is prerequisite.

Refer to SPD #A0.78.xx when requesting further information on this product from your local DIGITAL sales office.

Supercomp-Twenty™ is a trademark of Access Technology, Inc.

**Price:** \$595

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## CPS Graphics Package

**PDP-11 Operating System:** RSTS

**Keywords:** • Documentation tools • Presentation aids

These four programs constitute a complete graphics package that can handle almost any graphics request. The four programs are:

- GRAPH, which allows drawing of line charts and scattergrams, with options for filling in regions and labeling in 10 character fonts.
- BARS, which creates bar charts, allowing for sections of bars to be filled in, with an automatic legend and labeling.
- PIE, which is used for drawing pie charts, splitting the pie into sections, and splitting the sections into levels, with automatic filling in, legends, and labels.
- MAP, which draws stylized maps of the world. This program allows user-defined maps, filling in of regions by given criteria, and automatic spacing of line fill according to a density variable, automatic legends, and labels.

The programs are written in FORTRAN IV (to run under RSTS/E, using the RT-11 run-time system), and require the Hewlett-Packard PLOT/21 graphics subroutine package (item 72021C-option 008), which must be purchased separately from Hewlett-Packard, and an HP 7221-compatible plotter.

**Price:** \$500 - \$750

**Contact:** Robert Sendek, Computer Specialist  
(212) 644-1749

POPULATION COUNCIL  
One Dag Hammarskjold Plaza  
New York, NY 10017

## DATS

**PDP-11 Operating System:** RSX

**PRO Operating System:** P/OS

**Keywords:** • Data collection • Mapping • Signal processing  
• Statistics

DATS is a modular software system for collection, manipulation, analysis, and display of signal and time-series data. More than 80 powerful, flexible, secure, extendable modules exist for data acquisition, processing, and graphic display. The graphic facilities incorporate 3-D display facilities.

DATS provides a powerful, tractable, easily operated system to personnel with very limited computer knowledge. Each module is individually implemented and carries out a single function. A simple mechanism enables the user to determine and use a sequence of modules called a JOB. The level of user interaction and control can be determined during JOB preparation. A JOB may incorporate lines of standard code, although the flexibility of DATS obviates that requirement in most cases.



DATS operates in a time-sharing multiuser environment. The system incorporates a wide variety of facilities, including numerous subroutines to facilitate the development of new modules. Those facilities and time-sharing features give the system considerable power in program development without inhibiting the signal analysis function.

The package includes training, installation, a year of software and manual updates, and telephone support. DATS is available for the RSX-11-M, RT-11, P/OS, and VMS operating systems.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Dr. Colin Mercer  
(0329) 232658

PROSIG COMPUTER CONSULTANTS LTD.  
Link House, High Street  
Fareham, Hants PO16 7BQ England

## DIGLIB

**PDP-11 Operating System:** RT-11

**Keywords:** • Mapping • Software utilities

This library of FORTRAN subroutines supports a flatbed digitizing tablet. The program was written for a Summagraphics tablet interfaced through an RS232 port to a MINC 11/23 lab computer running RT-11 but is readily adaptable to other hardware. No intelligence of the digitizer is assumed, except that a cursor-set hardware origin of axes can be used. The routines can set a local origin of axes and axes orientation and a scale factor and allow transmission of messages to the calling program from a menu area on the digitizer. Routines are provided for digitizing cine-film-type material and creating a structured data file. Error correction can be made on individual points, or whole frames can be redigitized. The routines are written to minimize memory usage. A program using DIGLIB for measurement of the enclosed area within a digitized shape is also included. DECUS number 11-550.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## DMG/FLOW

**PDP-11 Operating System:** RSTS

**Keywords:** • Development tools • Presentation aids  
• Programming tools • Text management

This system graphically produces and edits tree-structured designs. Although directed primarily toward systems and program designers, DMG/FLOW is an excellent package for users who create, modify, and print diagrams that are based on tree structures — for example, functional system design, menu hierarchies, data base design (tree only), and program design.

DMG/FLOW provides an easy-to-use editor that manipulates boxes on a VT100 screen. Interim designs or alternatives can be stored on disk and recalled later. Standard DIGITAL printers with no special graphics capability are used. The hard-copy diagrams can be incorporated into the system documentation, eliminating tedious redrawing of working diagrams. DMG/FLOW requires a VT100 with the AVO option. Selected terminals that emulate the VT100 with AVO may be used. No special printer is required, but some printers produce better-quality diagrams than others. Contact DMG for advice.

DMG/FLOW verifies design structures and will not allow syntactical or other inconsistencies that might arise. Full 132-character width is supported, and DMG/FLOW provides the facility to link multipage diagrams with cross-page references. Header boxes maintain creation and revision dates for each page in a diagram.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$2000

**Contact:** Digital Management Group Ltd.  
(416) 225-7788

DIGITAL MANAGEMENT GROUP LTD.  
4800 Yonge Street  
Willowdale, Ontario M2N 6G5 Canada

### Drawing Register

**PDP-11 Operating System:** CTS-300, RSTS, RSX, RT-11

**Keywords:** • Architecture • Civil engineering  
• Information management • Project management

This system allows a register to be maintained of the revision history and circulation of all drawings produced and issued on a project. The system can produce a complete history of any drawing or group of drawings on request. A report can be produced of the status and revision of each drawing so that the project management team can ensure that all organizations working on the project are using the latest issue of drawings.

Drawing Register contains a list of people and organizations that can receive drawings for a project. Each is given a reference code by the user. To issue drawings, the user enters the recipient's code with the drawings and quantities. The system produces a print delivery note that lists all the drawings required and accompanies the drawings to the recipient. The system can at any time report the recipients of any drawing and, conversely, the drawings issued to a recipient.

In the United States, contact John Gillespie, (718) 624-2587, Project Software Inc., 257 Hicks Street, Brooklyn, NY 11201.

A version of this product is available for VAX computers.

**Price:** £1500 - £3000

**Contact:** Martin Barnes, Director  
061-439 6639 or Telex: 666650



**PROJECT SOFTWARE LTD.**

Foden Lane, Woodford

Stockport, Cheshire SK7 1PT United Kingdom

**DRWLIB****PDP-11 Operating System:** RSX**Keywords:** • Mapping • Presentation aids

This library of FORTRAN-callable subroutines for graphics output to display terminals and graph plotters has a variety of device drivers so that the same subroutines can be used, without amendment, across the whole range of supported devices. DRWLIB not only incorporates line drawing, pen control, shading, axis drawing, pie charts, and other such graphics facilities but also supports many different color terminals and multipen plotters concurrently. Any picture drawn on a graphics terminal may be sent to a plotter by changing the parameters of just one subroutine. DRWLIB contains more than 30 subroutines for initializing basic movement, text and numeric output, virtual window, and line and curve drawing.

DRWLIB graphics terminal support includes Tektronix 4010, 4025, and 4100 series; Westward W1000 and W2000 series; Lynwood Alpha; Retrographics; DACOLL; VT100; Selinar VT100; Lear Seagler Graphics Upgrades; HP2645, and DIGITAL VT125. Plotter support includes CalComp 81, Servogor 281, Hewlett-Packard HP7221, CIL series, Watanabe series, Benson, and Versatec V80.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Margaret Symes or Chris Evans  
(0329) 232658

**PROSIG COMPUTER CONSULTANTS LTD.**

Link House, High Street

Fareham, Hants PO16 7BQ England

**DUCTSYS — HVAC Ductwork and Fittings Drawing System****PDP-11 Operating System:** RSX**Keywords:** • Architecture • CAD/CAM

This set of interactive programs aids in creating double-line HVAC drawings. Developed on Intergraph CAD systems, DUCTSYS routines enable the user to place pipe and fittings easily and accurately. The flexible programs are a supplement to the standard Intergraph capabilities. The minimizing of key-ins, the use of defaults, and the use of a pictorial menu make DUCTSYS easy to learn and use.

DUCTSYS allows placement by centerline or left/right edge (justification), easy changes in default values, and multiple use of the system. The user can perform any graphics command between duct placements, and duct symbology can also be used for piping and cable trays applications. A duct can be shortened/lengthened with one command

or can be placed over an existing line to allow the tracing of a previously defined path. The user can delete the last fitting placed and can reset the design parameters. The system remembers current cross-sectional shape, justification, and direction of the last fitting or duct placed. DUCTSYS requires no cell library, drawing everything with UCMs, and draws a duct between fittings automatically.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Debra P. Bressler  
(713) 266-0000

EGT, INC.

11011 Richmond, Suite 700  
Houston, TX 77042

## **E Z Chart**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Data base management • Menu handlers  
• Presentation aids • Query facilities

This complete chart generator for DIGITAL PDP-11, LSI-11, and VAX systems is menu driven and highly intelligent. E Z Chart reduces virtually any sequential file to a properly scaled and labeled chart in minutes. The package runs interactively in a simple question-and-answer format. E Z Chart automatically summarizes large amounts of data and determines the scale of the chart to present best results.

This chart generator is geared to any industry that requires charts and graphics. E Z Chart is an enhancement product for the LA120 dot-addressable graphics and DIGITAL's LA12, LA34, LA50, and LA100 printers.

A version of this product is available for VAX computers.

**Price:** \$995 - \$1750

**Contact:** Alfred Rotatori  
(617) 449-5808

TEXPRINT, INC.

220 Reservoir Street  
Needham Heights, MA 02194

## **EDIGRAF — Batch Edit for Intergraph Design Files**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Text management

This general-purpose graphics file-editing program, developed for Intergraph CAD systems, can replace selected cells (by name) in a design file, change font or text size of selected text strings, modify the line weight of elements on certain levels, and perform global text edits on several design files. EDIGRAF enables the user to select, by type, color, level, weight, font, class, and so forth, which graphics elements are to be edited. Then the system will modify the indicated design file(s). In the alphanumeric mode, multiple-design files can be affected,



if desired. Within graphics, the elements in the current file that are contained in the user-defined fence will be modified.

With operational modes from either a graphics-design station or a low-cost alphanumeric terminal, EDIGRAF offers substantial productivity gains when large numbers of repetitive edits are being performed.

A version of this product is available for VAX computers.

**Price:** \$3500

**Contact:** Debra P. Bressler  
(713) 266-0000  
EGT, INC.  
11011 Richmond, Suite 700  
Houston, TX 77042

### **European MINC Package #4 — Plotters**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mapping • Presentation aids

The following is a brief description of the programs:

- PLOT 2D — A Cartesian 2-dimensional plot program
- TRID — A tridimensional plotting package
- CONTOR — EEG, voltage contour map spatial distribution Tektronix 4010-1 plus 4631 hard copy
- DECUS 11-418 — Use of a Tektronix 4662 plotter
- BOULIB — Provides a full graphics diagram capability for VT105, drawing up to 16 simultaneous graphs
- SERVOGOR — BBC 281 plotter extensive support via serial interface SLUO
- BARBAR — A bar graph plotting package
- FORTRAN graphics support for the VT105; two improvements to 105 LIB and two new subroutines added to the package
- Three-dimensional multiwaves graphics package
- FORTRAN support for HP-9872B/C plotter, VT105 graphics features, and BASIC lettering

DECUS number 11-575.

**Price:** \$5 — \$225

**Contact:** DECUS (see Introduction)

### **EZ Chart**

**PDP-11 Operating System:** CTS-300, Micro/RSTS, Micro/R SX, RSTS, RSX, RT-11

**Keywords:** • Device drivers/handlers • Presentation aids  
• Query facilities

Memory required: 56KB.

This business and scientific graphics program runs interactively in a question-and-answer mode and supports various printer/plotter devices, including such standard DIGITAL printers as the LA50 and LA100, LVP16, and the VT240 and VT241 terminals.

## 686 Graphics

A version of this product is available for VAX computers.

**Price:** \$1795 - \$5500

**Contact:** Paul Matson  
(617) 774-6703

INTERACTIVE SYSTEMS & SOFTWARE, INC.

P.O. Box 348

Danvers, MA 01923

### FINGRAPH

**PDP-11 Operating System:** CTS-300, Micro/RSTS, RSTS

**PRO Operating System:** P/OS

**Keywords:** • Decision support • Information management  
• Presentation aids

Memory required: 256K.

This powerful, innovative graphic MIS system expands the power of your applications by transmitting information graphically to help you make decisions and operate more efficiently. You set up charts once, and FINGRAPH automatically updates the information from your application, spreadsheet, or data base. FINGRAPH's unique slide-show feature lets you review and compare information quickly, enabling you to identify trends and make better-informed decisions. FINGRAPH can be linked to application packages, transfer data from your data base or spreadsheet, and provide graphic output to either screen or paper, automatic scaling, and chart labeling.

A version of this product is available for VAX computers.

**Price:** \$595 - \$5000

**Contact:** Ronnie Jarett  
(217) 793-0884

GRAPHIC M\*I\*S, INC.

960 Clock Tower, Suite G

Springfield, IL 62704

### FORTRAN Graphics Support for the VT105

**PDP-11 Operating System:** RT-11

**Keywords:** • Presentation aids • Software utilities

This package consists of 38 RT-11/FORTRAN subroutines and 10 demonstration programs. The graphics subroutines perform the necessary functions that enable you to use the VT105 as a graphics terminal; the demonstration programs include examples of some of the graphics subroutines.

The package also includes three spline-fitting routines that enable you to draw smooth nonlinear curves for data in which relationships cannot be easily defined mathematically. DECUS number 11-435.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



## **FORTRAN/RT-11 Plotting System for the IEEE-488 HP-9872S Plotter**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • File transfer • Mapping  
• Software utilities

Memory required: 16K.

This series of FORTRAN subroutines, the device handler PL.MAC, and the queue programs provide a plotting system for use with the Hewlett-Packard 9872S plotter and the IBV-11 IEEE-4888 interface, running under RT-11.

The plotting package includes a standard RT-11 device handler, PL.SYS, that allows the plotter to operate in the "listen-only" mode; a set of FORTRAN subroutines for creating plot files on disk; a queue package (based on the RT-11 programs QUEUE and QUEMAN) that allows plot files to be queued and plotted as foreground or system jobs; and command files to compile and list the source files and to create a library of all routines. Also included is a file that may be included in the linking commands to create an overlaid SAV file.

This system improves the facilities that were available using the programs provided as DECUS number 11-427. The FORTRAN plotting routines are based on the original programs supplied by DECUS; however, some may have been altered considerably, and many new routines and facilities have been added.

The handler also allows ASCII files to be "plotted" directly with the addition of the necessary plotter commands. That facility is useful for transferring tables or other text to the plotter. DECUS number 11-541.

**Note:** PLOTA.REL, PLOTQ.SAV — Patched versions of standard RT-11 programs QUEUE and QUEMAN do not contain source files.

**Price:** \$5 — \$225

**Contact:** DECUS (see Introduction)

## **GAM (Graphic Access Method)**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Device drivers/handlers • Programming tools  
• Real time

This graphics input/output handler provides graphics programming services for the assembler language programmer. GAM allows full interaction between a program and a graphics station. A station is referenced from the graphics program as any other peripheral device. GAM controls the user/machine interaction in the display environment and provides system integrity without impeding station interaction. GAM achieves those purposes by functioning as a handler rather than as a modification to the operating system.

A version of this product is available for VAX computers.

**Price:** \$500 – \$5325

**Contact:** Janice Wheaton  
(818) 346-0549

INTERACTIVE GRAPHIC SYSTEMS, INC.

P.O. Box 1305

Woodland Hills, CA 91365

### **GDL (Graphic Display Library)**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • CAD/CAM • Modeling/simulation  
• Programming tools • Real time

This interface with the display environment is a reentrant resident library of callable subroutines that provides graphics programming services to help the application programmer create and manipulate graphics displays. GDL subroutines address one or more graphics display stations attached to any computer supporting IGS's GAM. A graphics display station is defined as a CRT monitor and any combination of interactive devices associated with it.

The modular, open-ended subroutines in GDL promote rapid application software development and allow for extending GDL. GDL is designed to relieve the programmer of the responsibilities of handling the graphics station, while allowing complete access to all the hardware features. GDL permits multiple display stations to be controlled from multiple programs. GDL also allows the station to be used as an input device. Inputs can be generated by the alphanumeric keyboard, function keys, light pen, or other input devices.

A version of this product is available for VAX computers.

**Price:** \$6100 – \$9300

**Contact:** Janice Wheaton  
(818) 346-0549

INTERACTIVE GRAPHIC SYSTEMS, INC.

P.O. Box 1305

Woodland Hills, CA 91365

### **Gear**

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • CAD/CAM • Engineering • Manufacturing  
• Mechanical engineering

Memory required: 64K minimum.

This program, written in MACRO, calculates and plots gears, based on user responses to prompts for diametral pitch, number of teeth, and pressure angle. The program optionally provides the data necessary to mesh groups of gears on a drawing. The Gear program applies to any process involving gear design and provides an accelerated design process, quick calculations from user data input, and gear meshing for geometry.



A version of this product is available for VAX computers.

**Price:** \$500 – \$15,000

**Contact:** Dean Lampman  
(513) 874-4499

**STARFLO ENGINEERING**

4740 A Interstate Drive  
Cincinnati, OH 45246

## GENPLT

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Engineering • Mapping  
• Scientific

Memory required: 64KB.

This general-purpose interactive driver program for HP-9872 Plotting Package (DECUS number 11-540) is to be used with MINCs and HP-9872 Graphics Plotters. The main objectives of GENPLT are to permit easy assembly of data from different sources, to include functional graphs in composite plots, and to permit easy modification of plot parameters to obtain optimal plots. GENPLT can survive user input errors and thus prevent wasted effort and time on the user's part. DECUS number 11-567.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## GIGI CAI Primer

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction

This computer-assisted instruction course on the use of a GIGI terminal presents instruction on line through a GIGI terminal connected to a RSTS/E, a VAX/VMS, or a TOPS-20 operating system host. The course is composed of three instructional modules that cover the operation of the GIGI keyboard, the use of various set-up modes that determine GIGI's operating characteristics, and a demonstration of the terminal's graphics capabilities. The course takes about one hour to complete.

Refer to SPD #30.11.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## GIGI Software

**PDP-11 Operating System:** RSTS

**Keywords:** • Education • Financial analysis • Statistics  
• Text management

This set of host-resident graphics packages written in FORTRAN supports a range of educational applications on the GIGI terminal. The software is distributed with hardware or alone.

Two combined hardware and software packages are available. Package A consists of the GIGI Graphics Editor, the GIGI Character Set Editor, and the GIGI Slide Projection System. Package B comprises specific applications using the GIGI terminal: GIGI DEC-RITE, GIGI Data Plotting Package, and GIGI ReGIS Application Library.

The GIGI Character Set Editor allows users to construct alternate character sets of up to 95 characters each. The character sets are stored in files on the host system and may be down-line loaded into any of the terminal's three alternate character sets.

Symbolic and foreign language character sets are used in such disciplines as mathematics, chemistry, and Greek. The package allows non-technical users to create, load, and use character sets. The Editor provides commands for creating and manipulating character set files and for controlling screen display during editing. In addition, the user can define a character set, using combinations of available characters to form multiple-character mosaics.

The GIGI Slide Projection System allows the user to display existing Remote Graphics Instruction Set (ReGIS) picture files. The GIGI Slide Projection System works like a slide projector and can be used in both the sciences and the humanities to prepare class materials and presentations.

GIGI DEC-RITE (ReGIS Illustrated Text Editor) is an on-screen editor providing interactive text-attribute selection and optional final copy from GIGI connected to a DECwriter IV Graphics Printer.

The GIGI ReGIS Application Library is a set of subroutines for applications developed for the GIGI terminal. The library gives the user most of the standard Remote Graphic Instruction Set (ReGIS) functions in the terminal.

Refer to SPD #30.10.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for VAX computers.

**Price:** \$240 - \$1000

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **GIGIC2: GIGI Graphics Printout on a Low-Priced C-ITOH Printer**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Printing  
• Systems communications

**Memory required:** 4KW.

GIGI2 allows the graphics on a DIGITAL GIGI terminal to be dumped to an LSI-11 computer and then interpreted and printed on a low-



priced C-ITOH printer. When GIGI2 is run, the entire screen content is dumped to the printer. GIGI2 offers twice the size of the printout compared to the previous version, GIGIC. DECUS number 11-592.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **GINO**

**PDP-11 Operating System:** IAS, RSTS, RSX, RT-11, ULTRIX-11

**Keywords:** • Development tools • Mapping  
• Programming tools

This subroutine library enables you to add graphics to a program quickly on almost any computer. GINO contains drawing and administrative routines for 2-D and 3-D displays. Simple calls are used to produce and manipulate pictures, providing a fast and efficient means of visualizing ideas and solving problems.

GINO's modular structure allows you to change graphics peripherals easily. It can drive a variety of terminals — color, raster, vector refresh, and storage tube — ranging from dumb terminals to sophisticated workstations and can drive hard-copy devices, ranging from simple pen plotters to laser and electrostatic printers.

GINOGRAF is a subroutine library for pie charts, graphs, bar charts, and histograms. You can draw any of these scaled, fully annotated, and framed by supplying data and calling a single routine. GINOSURF is a subroutine library providing facilities for displaying 3-D surfaces as contour maps or as isometric projections.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Lynne Skelly  
(0223) 314848

CADCENTRE LTD.

High Cross, Madingley Road  
Cambridge CB3 0HB England

## **GINTRAN (Graphics Input and Transformation)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Architecture • CAD/CAM • Electrical  
• Mechanical engineering

GINTRAN, written in FORTRAN-77, is a graphics system for all phases of an architectural design, from sketch modeling to working details. The model is held in a true 3-dimensional form from which a wide range of views can be created: plans, elevations, sections, orthographics, trimetrics, and perspectives — all with or without hidden lines removed.

The system is easily controlled by the user through a series of command menus requiring no special computer terminology. The user can

build up a store of standard symbols and graphic elements that can be instantly retrieved from graphics menus and libraries.

The system is open ended and can grow as the user's requirements develop and expand. GINTRAN can be supplied as a complete hardware and software package or to run on a user's installation.

**Price:** £10,000 – £20,000

**Contact:** Suzanne Roberts  
0272 292615

DESIGN COMPUTING LTD.

Clifton Heights, 2nd Floor, Triangle West, Clifton  
Bristol, Avon BS8 1EJ England

### GKS–GRAL

**PDP–11 Operating System:** RSX

**Keywords:** • CAD/CAM • Process control • Programming tools  
• Scientific

GKS–GRAL, developed by GTS/GRAL, is a full implementation of the ISO Standard Graphical Kernel System, consisting of a library of FORTRAN–77 subroutines. GKS offers capabilities for creating 2-dimensional pictures, handling input from graphical workstations, and structuring, manipulating, storing, and retrieving pictures.

GKS–GRAL supports different device drivers by adapting to each graphics driver, emulating GKS functions that do not exist and making the best use of existing functions. Thus, GKS–GRAL can be used on simple plotters and on powerful graphics workstations with display file and hardware operations. GKS–GRAL is configured in GKS level 2b, which provides GKS output, attribute and segmentation functions, and the REQUEST input functions on multiple workstations, accessible at any time.

GKS–GRAL is available on an end-user (single copy or corporate) or OEM basis. Documentation, installation, and training are available.

A version of this product is available for VAX computers.

**Price:** \$4000 – \$15,000

**Contact:** Kent Anderson  
(612) 893–1350

GIXI INC.

7808 Glenroy Road  
Minneapolis, MN 55435

### GKS/C

**PDP–11 Operating System:** Independent, ULTRIX–11

**Keywords:** • Device drivers/handlers • Programming tools

GKS/C is a speed-optimized and memory-optimized C implementation of GKS (Graphics Kernel System) to level 2b of the ISO standard. GKS/C can be ported onto the VAX, PDP–11, Motorola 68000, Ridge, and IBM PC/XT computers. The product was codeveloped with the



Mathematical Center of the Netherlands, and we have added value by adding ports and drivers, by speeding up the package, and by liberally commenting the source code. Some routines have been implemented in microcode for certain customers.

A version of this product is available for VAX computers.

**Price:** \$300 – \$20,000

**Contact:** Ahmed Bashir, P. Eng.  
(613) 820-7235

PRIOR DATA SCIENCES LTD.  
Bell Mews Plaza, 39 Highway 7, Suite 232  
Ottawa, Ontario K2H 8R2 Canada

### **GPR (Graphics Plotting Routines)**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Printing • Software utilities

This software provides support for application software that is output to Benson plotter/printers, including electrostatic printer/plotters, thermal transfer plotters, pen/plotters, and color ink/jet plotters with Benson Graphware™ controller products. GPR produces Benson plotter/printer formats and the GKS industry-standard formats based on GKS Metafile (GKSM) from ISO and Virtual Device Metafile (VDM) from ANSI. The GKS implementation includes an ISDP front-end option to allow interfacing to current pen plotter-oriented application software.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$3000

**Contact:** Joanne Pearson, Product Marketing  
(408) 945-1000

BENSON, INC.  
2690 Orchard Park Way  
San Jose, CA 95152-2059

### **Graph Package**

**PDP-11 Operating System:** RSTS

**Keywords:** • Printing • Software utilities

GRAPAK is a set of programs for producing graphs on teletypes, line printers, and similar devices. The package has facilities for processing experimental data in up to four parameters, carrying out intermediate calculations, and performing least-squares fitting, if required. In addition, general functions can be plotted alone, combined with an unlimited number of other functions, or combined with experimental data. This package has many applications and is useful whenever data is to be displayed graphically. The package is not designed to drive a graph plotter. DECUS number 11-277.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## **GRASP: Graphics Applications Processor**

**PRO Operating System:** P/OS

**Keywords:** • Mapping • Personal computing

This graphics editor is designed to produce drawings and other graphical images. It has extensive 2-D image-manipulation capabilities and can be expanded to process data from other programs. GRASP consists of four programs written in PRO-BASIC and can be used without any additional hardware. DECUS number PRO-117.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **HATCH — Crosshatching**

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • CAD/CAM • Engineering

Memory required: 64K minimum.

This program, written in MACRO, is a general-purpose routine to produce any number of crosshatch lines at any angle, line width, or line type (dotted, solid, centerline, dashed). Lines can be spaced close or far apart. HATCH can be applied to cutaways and intricate figures, can be used with wide pens to fill in color areas, and can improve business graphics with spectacular effects. HATCH improves appearance in drawings and graphics, provides speed of execution, and contains precise fills and patterns.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000

**Contact:** Dean Lampman  
(513) 874-4499

STARFLO ENGINEERING  
4740 A Interstate Drive  
Cincinnati, OH 45246

## **HCGS**

**PDP-11 Operating System:** CTS-300, Micro/RSTS, Micro/RSX,  
RSTS, RSX, RT-11

**Keywords:** • Data conversion • Mapping • Numerical analysis  
• Presentation aids

Memory required: 18KB.

HCGS uses a vector-to-raster conversion process to bridge the gap between graphics devices and printers. Two independent sets of sub-routines can be used separately or together. The first set emulates the standard plotter class; the second, the PLOT-10 software. Both convert the graphics data into compatible form for direct viewing on dot-addressable bitmap-type terminals. The package includes symbol and character generators.

A version of this product is available for VAX computers.



**Price:** \$795

**Contact:** Paul Matson  
(617) 774-6703

INTERACTIVE SYSTEMS & SOFTWARE, INC.  
P.O. Box 348  
Danvers, MA 01923

### **HCGS (Host Computer Graphics Software)**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Development tools • Engineering • Printing  
• Text management

This low-cost alternative for hard-copy generation of charts, diagrams, maps, formatted reports, and other text/graphics data bridges the compatibility gap among Tektronix, CalComp, and DIGITAL graphics users. With HCGS, software written using either CalComp or Tektronix Plot 10 calls can produce text and graphics hard copy in color on DECOLOR LA120 and in black and white on DECPlot LA120 and other DIGITAL dot matrix printer/plotters. A printing terminal, such as the LA120, can now be converted into a Tektronix or CalComp or DIGITAL-compatible graphics printer/plotter with DECPlot and HCGS. Thus, the need for expensive vector-data plotters is often eliminated. HCGS is written in FORTRAN, and the kit includes a user's guide, installation instructions, test programs, and sample subroutine information to facilitate systems startup.

A version of this product is available for VAX computers.

**Price:** \$595 - \$795

**Contact:** Alfred Rotatori  
(617) 449-5808

TEXPRINT, INC.  
220 Reservoir Street  
Needham Heights, MA 02194

### **HIDE (Hidden Line Removal/Plotting Subprogram)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mapping • Software utilities

Memory required: 16K or more.

A 2-dimensional plot of a 3-dimensional surface is generated using repeated calls to a FORTRAN subroutine, HIDE.FOR. Hidden portions of each subsequent curve are removed. The remainder of each curve is plotted. Axes with tic marks and labels may optionally be generated. This subroutine presently uses a Versatec D1200A electrostatic plotter or a HOUSTON COMPlot DP-1 pen plotter. Virtually any pen or electrostatic plotter may be used. An example program that generates a surface plot is provided. The HIDE subroutine is based on Williamson's algorithm. DECUS number 11-325.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **HP-7225A HP-GL Pen Plotter Library**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mapping

This software consists of a collection of subroutines written for the Hewlett-Packard 7225A pen plotter. Included is support for the inherent HP Graphics Language Instruction Set and several other high-level functions as described below. Mapping from virtual user units to physical plotter units occurs with respect to the specified plotter units (in., cm), the plot origin, and a global plotting factor, which allows the entire plot to be reduced or enlarged by calling one subroutine. Data can be plotted by specification of coordinate pairs, or a single data vector may be plotted as a function of a fixed X-increment — if the data are interval related. Coordinate data to be plotted may be specified in integer or floating-point form, and the data may be scaled by an offset and a gain factor. Some other functions that have been written are the following: move to coordinate, draw to coordinate, label, axis, histogram, and digitize. DECUS number 11-546.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **HP-9872 Plotting Package for Use with MINCs**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mapping • Scientific

Memory required: 64KB.

This powerful and comprehensive plotting package consists of FORTRAN-callable subroutines for using an HP-9872 Graphics Plotter with MINC computers. The package frees the user from having to acquire detailed knowledge of the hardware and software aspects of the plotter for its effective usage. Routines generate standard plots of report quality, with minimal input from the user, who needs but minimal knowledge of the package.

This package features linear or logarithmic mapping along either or both axes, numerical labels along axes, tic marks, grid lines, axes titles, plot title, character strings with super- and subscripts, symbols at data points, different types of lines between data points, 5 types of single frames, 14 types of multiple frames with shifted origins, line-type legend blocks, informative legend blocks, and autoranging. DECUS number 11-540.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **HP PLOT.BAS: Hewlett-Packard 7202A Graphics Plotter Programs**

**PDP-11 Operating System:** RSTS

**Keywords:** • Mapping

Memory required: 7K.



HP PLOT and the set of programs that go with it are written to be used with an HP-7202A plotter. The set of programs will plot data or functions. The user sets the minimum and maximum for X and Y. The user also may label the X and/or Y axis and put a title on the graph. DECUS number 11-170.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **IAS105: VT105 FORTRAN Graphics Package for IAS**

**PDP-11 Operating System:** IAS

**Keywords:** • Presentation aids • Software utilities

A modified version of the VT105 Graphics Package, DECUS number 11-452, this package consists of 40 FORTRAN subroutines and 12 demonstration programs. The graphics subroutines perform the necessary functions that enable you to use the VT105 as a graphics terminal. The demonstration programs include examples of some of the graphics subroutines. The package also includes three spline-fitting routines that enable you to draw smooth nonlinear curves for data where relationships cannot be easily defined mathematically. DECUS number 11-498.

**Note:** The package has been tested on IAS V3.0 and V3.1 but not on earlier versions. Program "PEAK6" was called routine "GRREND" in original version 11-452. "GRREND" was missing in the original and is also missing in this version.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **IGOR 1 (Interactive Graphic Operating Resource)**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Device drivers/handlers • Pre- and postprocessors  
• Real time

This multifaceted program allows graphics hardware to be used as an intelligent workstation, as well as to operate as a graphics satellite to a host computer. IGOR is ideally suited for distributed graphics processing systems. IGOR off-loads much of the graphics processing normally handled by hosts. The savings to the host can be up to 90% of the overhead incurred on a normal graphics system. The TTY mode allows the station to communicate with any computer system that uses an RS232C serial interface; or, IGOR 1 may be configured to use a DMA interface, whichever suits the application needs. IGOR 1 is designed in modular format and incorporates structural programming techniques. Thus, IGOR 1 can accommodate the inclusion of new devices, handlers for different types of interfaces, and modifications. However, most users will find IGOR 1 satisfactory in its current configuration.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$4150

**Contact:** Janice Wheaton  
(818) 346-0549

INTERACTIVE GRAPHIC SYSTEMS, INC.

P.O. Box 1305

Woodland Hills, CA 91365

## IMAGES II +

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Production control

This turnkey computer graphics system is used for graphic arts, training, video production, and illustration. Output is to either film or video tape. The system is written for UNIX\*-based systems containing proprietary CGL frame buffers.

A version of this product is available for VAX computers.

**Price:** \$45,500 - \$120,000

**Contact:** Bill Taylor  
(212) 557-5130

COMPUTER GRAPHICS LAB, INC.

405 Lexington Avenue

New York, NY 10174

## Lawrence Plotting Package for BASIC-PLUS

**PDP-11 Operating System:** RSTS

**Keywords:** • Device drivers/handlers

This package for BASIC-PLUS contains compact, versatile, coordinated sets of subroutines for producing graphs on Tektronix 4006, 4010 family, 4025, 4027, and 4662; DIGITAL GIGI and VT125; Hewlett-Packard 7220A/S; TSP-12; and character-oriented terminals. The primary plotting subroutines (SCALE, PLOT, FINISH, NOPLOT, SETTRM, SELCOL, NEWPAG, AXIS, GRAPHN, COORDN, and RELTRM) are contained in a single BASIC-PLUS source file for each device. Other subroutines include LETTER (draws character strings positioned horizontally or vertically), PIE, BAR, and LBAXIS (labels axes).

The user writes only a device-independent driving program that calls (through the instruction GOSUB nnnnn) the proper sequence of plotting subroutines as it determines the succession of points whose plotting will generate the desired display. The user then appends the subroutines for the device to be used and runs the resulting complete program to produce the plot. Full documentation of the package is contained in the *System Manager's Guide*, which includes detailed descriptions of the coding, and the *User's Guide*, which explains how to write driving programs, using the package.

**Price:** \$250 - \$600

**Contact:** Dr. David M. Cook  
(414) 735-6721



## COMPUTER CENTER PUBLICATIONS

Lawrence University, Box 599

Appleton, WI 54912

**Line Printer Plot****PDP-11 Operating System:** RT-11**Keywords:** • Printing

This FORTRAN subroutine accepts from one to nine real arrays and plots them on an 80-column-wide line printer or terminal. DECUS number 11-309.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**LXY-11 Plotting Package****PDP-11 Operating System:** RSTS**Keywords:** • Mapping • Printing

Memory required: 19,968 words.

This package contains three general-purpose programs using the LXY-11 Printer/Plotter. Two of the programs plot data on a graph with conventional X, Y coordinate axes, using data points specified by (X,Y) data pairs. The third program is a bar graph program used to display system user activity in one week. All programs are written in FORTRAN IV-PLUS. All data is contained in RSX-11-compatible data files. Documentation is included with source listings. DECUS number 11-556.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**MAPS/GRAPH****PDP-11 Operating System:** RSTS**Keywords:** • Decision support

MAPS/GRAPH, designed to provide maximum power and flexibility, is used to produce graphs of values in line plots, vertical bar plots, combinations of both, and tables. MAPS/GRAPH operates in a simple question-and-answer mode, allowing the user to easily define and produce graphs on either the 8-pen or 4-pen flatbed plotter or the 6-pen or 2-pen graphics plotter. Two graphs and their tables or up to four graphs can be plotted on the same page. Most sizing and scaling are handled automatically.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$5000**Contact:** Kevin Walsh

(415) 856-1100

ROSS SYSTEMS, INC.

1860 Embarcadero Road

Palo Alto, CA 94303

## **MAPSS = MAGIC (Management and Analysis of Geographic Characteristics Information)**

**PDP-11 Operating System:** RSX

**Keywords:** • Earth resources • Engineering • Mapping  
• Scientific

MAPSS = MAGIC organizes information by orthogonal patterns. The rectangular-block pattern of many city streets is a well-known example of orthogonal relations, as are many common games that use a grid-cell arrangement — chess, checkers, and crossword puzzles, for example. Each of those grids is clearly a data management system that organizes and presents information related to a particular series of attributes. Therefore, each data array is an orthogonal map or plan showing relationships of selected points at a specific time. As information changes through time or as new or different data is obtained, the patterns change but only in relation to the original orthogonal base.

Attribute-coincidence mapping (ACM) is a powerful tool that geologists use to compare map data from diverse sources with a series of transparent overlays. Computer-assisted ACM, particularly with MAPSS = MAGIC, enables the same geologists to consider, evaluate, and replot or store for later retrieval many more kinds of data with less effort, and line printer copy of ACM is readily available for preliminary editing, if desired.

Exploration for mineral, energy, and water resources requires the acquisition, compilation, and evaluation of information from the earth-science disciplines geology, geochemistry, and geophysics. MAPSS = MAGIC can handle geologic map patterns, specific resource information, airborne geophysical data, gravity data, drill-hole records, remote-sensing information, and geochemical analyses.

MAPSS = MAGIC is effective in land-use planning, including the identification of problem areas in land-use conflict. MAPSS = MAGIC software programs are also applicable for environmental pollution studies, including the calculation and display of atmospheric-plume dispersion patterns and ground water percolation models. MAPSS = MAGIC can recalculate, update, and redisplay those models in minutes.

A version of this product is available for VAX computers.

**Price:** \$15,000 – \$25,000

**Contact:** Howard A. Price, Jr., President  
(615) 691-2393

**THE MAPSS CORP.**

20 Argonne Plaza, Suite 123  
Oak Ridge, TN 37830



**MGSP (Multiware Graphics Subroutine Package)****PDP-11 Operating System:** Micro/RXS, RSX, RT-11**Keywords:** • Mapping • Presentation aids  
• Programming tools

MGSP is a library of FORTRAN-callable subroutines that implement a powerful 2-dimensional, device-independent graphics applications environment. MGSP is useful for creating high-quality charts and graphs in scientific, industrial, medical, educational, and business environments. More than 140 functional graphics building blocks are supplied, covering low-level device-driving capabilities, advanced primitive support, and complete chart preparation.

MGSP closely resembles SIGGRAPH's CORE specification for a 2-dimensional computer graphics package. Included are subroutines for drawing filled polygons, thick polylines, and software-generated text. Legends, protected areas, and protected polymarkers are also implemented. User-settable attributes control the appearance of those primitives. High-level subroutines draw complete labeled manual or autoscaled line/symbol charts, bar graphs, and pie charts.

A user-configurable device driver library is provided with support for many popular high-resolution graphics display terminals and pen plotters. Binary metafile output is also supported.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$3000**Contact:** Adam Bridge  
(916) 756-3291MULTIWARE, INC.  
437 F Street  
Davis, CA 95616**Micro/GVS (Genesys Videotex System)****PDP-11 Operating System:** Micro/RSTS**Keywords:** • Data base management • Presentation aids

This turnkey interactive graphics display system for MicroPDP-11s driving ASCII or NAPLPS terminals can support up to 12 terminals. The terminals display full-color NAPLPS graphics pages or ASCII-only text pages from a data base. The graphics display of information is especially useful in point-of-sale advertising, displays at trade shows and exhibitions, and information centers at tourist sites.

Terminals in public locations can be configured to scroll through different sets of screens whenever they are not being used interactively. Once you begin typing, you have control over the pages being accessed.

Inexperienced users require no training to browse through the screens in the data base, move between data bases, and use advanced commands. Complete operator support is provided to run an electronic display system, including detailed statistical reports on system usage,

diagnostics for remote terminals, and simultaneous data base update and maintenance.

**Price:** \$4000 - \$12,000

**Contact:** Val Smith

(613) 226-8740

**GENESYS GROUP INC.**

1775 Courtwood Crescent

Ottawa, Ontario K2C 3J2 Canada

### **Micro/RSTS DECgraph-11**

**PDP-11 Operating System:** Micro/RSTS

**Keywords:** • Presentation aids • Printing

This interactive business graphics application enables the nontechnical user to create business graphs. Aided by picture-assisted menus, a user can input the data to be graphed, design the graph description, and combine them to create a graph file for display on the video terminal or printer. Thus, the data, design, and graph files are maintained independently, permitting modified or new data files to be used with a previously designed graph. Graphs can be created and stored on a file for future use.

Micro/RSTS DECgraph-11 uses the capabilities of the graphics terminal and graphic-mode printers. On monochrome terminals, graphic images can be represented in black-and-white formats with the use of selected fill and line patterns. On color terminals or monitors, graphs can be designed with four colors chosen from a list of 14.

DATATRIEVE-11 can be accessed to establish the DECgraph-11 data file; the information contained in that file can then be graphed by DECgraph-11. A program can also be written to access other data files and to establish a DECgraph-11 data file.

Refer to SPD #18.22.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$595

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Micro/RSX DECgraph-11**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • Presentation aids • Printing

This interactive business graphics application enables the nontechnical user to create business graphs. Aided by picture-assisted menus, a user can input the data to be graphed, design the graph description, and combine them to create a graph file for display on the video terminal or printer. Thus, the data, design, and graph files are maintained independently, permitting modified or new data files to be used with a previously designed graph. Graphs can be created and stored on a file for future use.



Micro/RSX DECgraph-11 uses the capabilities of the graphics terminals and graphic-mode printers. On monochrome terminals, graphic images can be represented in black-and-white formats with the use of selected fill and line patterns. On color terminals or monitors, graphs can be designed with four colors chosen from a list of 14.

DATATRIEVE-11 can be accessed to establish the DECgraph-11 data file; the information in that file can then be graphed by DECgraph-11. A program can also be written to access other data files and to establish a DECgraph-11 data file.

Refer to SPD #18.21.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$595

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **MINC-11 Utility Package, Including HIPLLOT**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data collection • Device drivers/handlers

Memory required: 32K.

HIPAD allows the user to measure length, circumference, and areas and to get a listing of the length and area. Used with Houston Instruments' HIPAD Digital Input hardware device, the HIPAD routines also allow the user to store or retrieve the graphical data on disk.

The HIPAD program operates by easy-to-use menus. Single keystrokes can often be used to enter information and control the program. The user can make optimal use of the HIPAD device without knowing the intricate workings of the HIPAD or how to program.

The user can arbitrarily scale the graphic data to any dimension. The HIPAD instrument allows the user to enter single points or a stream of points at the rate of five points a second.

Status indicators aid in determining the mode of the program: SELECT, ACCEPT, DATA, WAIT, COMPUTING. The HIPAD program also makes extensive use of default settings for determining which program options are used. Those options include disk storage, length and area calculations, screen printout, paper printout, and automatic looping.

LISTER allows the continuous line printer listing of any number of programs or any file. LISTER starts each file on the top of a new page and puts the file name on the top of each page. The program contains complete instructions. Version 1.2, which works with MINC 1.2, also numbers the pages.

OPTIONS is a utility subroutine for selecting or modifying a set of variables and default parameters. The subroutine displays a list of variables (options) and default values on the screen and allows the user to either choose the default value or enter a new value. The number of variables may vary from 1 to 10. The user is prompted for corrections

and may cycle through the variables any number of times before exiting. The default value for a variable is chosen by typing RETURN. DECUS number 11-506.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MINC BASIC and RT FORTRAN Support for the HILOT DMP4 Plotter**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Mapping

This software supports the HILOT DMP4 plotter from Houston Instruments. Support is provided for MINC BASIC and RT FORTRAN IV. The software is supplied as sources. DECUS number 11-465.

Note: The author has commented that this is a "smart plotter."

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MINC BASIC/FORTRAN Support for HIPAD Digitizers**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data collection • Device drivers/handlers  
• Mapping

Memory required: 30KW.

This software package consists of BASIC and FORTRAN support for the Houston Instruments HIPAD digitizers. The BASIC routines provide a means for acquiring data through an RS 232 interface, storing the data on disk, and plotting the data on a VT105 and a HILOT plotter. The FORTRAN support provides similar capabilities, interfaced through the RS 232 port. The routines demonstrate techniques for data acquisition through MINC/BASIC and FORTRAN. DECUS number 11-416.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **MINC/BASIC-FORTRAN IV Support for the Tektronix 4662 Plotter**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Mapping

This software enables a user to interact with the Tektronix 4662 plotter through the IEEE-488 interface bus. Support is provided in MINC/BASIC and RT-11 FORTRAN IV. DECUS number 11-418.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**MINC/BASIC, MINC/FORTRAN Support for HILOT Plotter****PDP-11 Operating System:** RT-11**Keywords:** • Device drivers/handlers • Mapping**Memory required:** FORTRAN, 16KB; BASIC, 60KB.

This package provides support for a Houston Instruments HILOT Plotter on a MINC system. Software support is written in both MINC BASIC and in FORTRAN IV. These routines allow you to drive the plotter as an absolute plotter and to draw text characters. In addition, in FORTRAN a general-purpose spline-fitting package is provided. DECUS number 11-402.

**Note:** According to the author, this is a "dumb plotter."

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**MINC/BASIC, MINC/FORTRAN Support for the DP101 Plotter****PDP-11 Operating System:** RT-11**Keywords:** • Device drivers/handlers • Instrumentation  
• Mapping**Memory required:** FORTRAN, 16KB; BASIC, 60KB.

This package provides support for a Houston Instrument DP101 Plotter on a MINC system. Software support is written in both MINC BASIC and in FORTRAN IV. The routines allow you to drive the plotter as an absolute plotter and to draw text characters. In FORTRAN, a general-purpose spline fitting package is also provided. DECUS number 11-401.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**PALETTE™ : Computer-Aided Drafting and Design****PDP-11 Operating System:** Micro/RSX, RSX**PRO Operating System:** P/OS**Keywords:** • Architecture • CAD/CAM • Civil engineering  
• Mechanical engineering**Memory required:** 256KB to 1.5 MB.

PALETTE is a powerful, high-performance 2-dimensional drafting and 3-dimensional modeling, computer-aided drafting and design (CADD) software system for architects, facilities managers, and structural, civil, electrical, process, and production engineers. PALETTE's extreme flexibility has broadened its applications to robotics, ship building, and the oil and gas industries. Easy-to-use PALETTE is compatible with a wide range of computers, allowing you to start with a minimal, low-cost system and gradually develop into a large, high-performance system without redrawing library symbols or drawing files.

PALETTE's English-language mnemonic command structure makes learning and remembering the commands simple. With PALETTE's Independent Program Interface (IPI), special-purpose design programs

can be integrated with PALETTE to appear as if they were features of PALETTE. The interface capacity allows PALETTE to be interfaced to other CADD systems easily.

PALETTE SDB™ (Spatial Data Base) allows you to define up to 256 attributes to any line on a drawing. A Boolean expression can be used to interrogate data in terms of what is seen on the screen. PALETTE SDB can be interfaced to existing data base management systems, allowing critical access to data stored in another area.

The PALETTE CSI™ (Color-Shaded Imaging) module provides the ability to create color 3-D images, using a minimum of CPU time. Features include multiple light sources, transparencies, fog simulation, and Z-clipping.

A version of this product is available for VAX computers.

**Price:** \$4950 – \$150,000

**Contact:** Maryellen Horsley  
(617) 273-5660

PALETTE SYSTEMS INC.  
2 Burlington Woods Park  
Burlington, MA 01803

### PC4014 Terminal Emulator

**PRO Operating System:** P/OS

**Keywords:** • Systems communications

This package for Professional 350 or 380 systems emulates the graphics operations of a Tektronix® 4014 display terminal transparently to a graphics application program running on another computer. This emulator accepts and responds to Tektronix 4010 graphic codes.

The PC4014 separates normal user interactive text from the graphics display to provide a pure graphics region and a scroll text region. This separation provides a cleaner graphics display than can be observed on a Tektronix 4014. At the user's convenience, the scroll region can be 3, 5, 10, or 24 lines in length.

The difference between the Tektronix 4014 display terminal and the Professional 350 or 380 display screens prevent complete duplication of all operational characteristics. Significant effort has been applied to make the PC4014's operation closely match the graphic characteristics of the Tektronix 4014.

P/OS hard disk operating system and PRO/Communications are prerequisite.

Refer to SPD #A4.01.xx when requesting information on this product from your local DIGITAL sales office.

Tektronix® is a registered trademark of Tektronix, Inc.

**Price:** \$495

**Contact:** Consult your local DIGITAL sales office (see Introduction).



**Picture Book****PDP-11 Operating System:** RSX**Keywords:** • Device drivers/handlers • Down-line loading

Memory required: 8K GT40; code 1.25K; additional memory to 28K.

This set of programs runs interactively between a RSTS/E or RSX-11D system and a GT40 or GT42 graphics display terminal. The package consists of a down-line loader, a communication and display file handler, and a set of FORTRAN (RSX-11D) graphics subroutines or BASIC (RSTS/E) functions. The loader runs on the host system and loads PDP-11 binary files into the graphics terminal over the communications line. The communications and display file handler is a compact routine residing in about 1.5K words of memory on the graphics terminal. The graphics subroutines run on the host PDP-11 and are called by a user's application program. Each subroutine generates to the terminal a string of ASCII characters for the handler to interpret. DECUS number 11-323.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**Pie****PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11**Keywords:** • Mapping • Presentation aids

Memory required: 64K minimum.

This program, written in MACRO, creates pie charts with the colors, labels, and sizes according to user responses to prompts for chart name, section names, colors desired, and percentages. Graphs appear on the CRT or can be drawn on the plotter. Pie applies to any business or planning function requiring compression of data into a simple-to-understand graphics format. The program is easy to understand, with superior presentation of data and different sizes, colors, and line types for many plots of a graph.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000**Contact:** Dean Lampman  
(513) 874-4499STARFLO ENGINEERING  
4740 A Interstate Drive  
Cincinnati, OH 45246**PIPESYS — Double-Line Piping Drawing System****PDP-11 Operating System:** RSX**Keywords:** • Architecture • CAD/CAM

This set of interactive programs aids in creating double-line piping drawings. Developed on Intergraph CAD systems, PIPESYS routines

enable a user to place pipe and fittings easily and accurately. The flexible programs are a supplement to the standard Intergraph capabilities. The minimizing of key-ins, the use of defaults, and the use of a pictorial menu make PIPESYS easy to learn and use.

PIPESYS allows placement by centerline or left/right edge (justification), easy changes in default values, and multiple use of the system. The user can perform any graphics command between pipe placements, and pipe symbology can also be used for duct and cable trays applications. A pipe can be shortened/lengthened with one command or can be placed over an existing line to allow the tracing of a previously defined path. The user can delete the last placement and try again. PIPESYS remembers current pipe diameter, justification, and direction and automatically draws pipe between fittings.

A version of this product is available for VAX computers.

**Price:** \$2500

**Contact:** Debra P. Bressler  
(713) 266-0000

EGT, INC.

11011 Richmond, Suite 700  
Houston, TX 77042

## **PLOT**

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Mapping

Memory required: OBJ file is 10 blocks.

This MACRO program is configured as a set of FORTRAN-callable subroutines. PLOT allows a user with a standard 4-channel digital-to-analog converter card (such as the AAV-11) to use a laboratory XY recorder-to-storage CRT as a graphics output. The calls include origin relocation, axes, point, vector, and character plotting. An operating manual for the FORTRAN programmer is provided.

PLOTH is a similar set of routines for use with a digital incremental plotter such as the Houston HILOT.

Included with the software are test programs using the PLOT package: a simple test routine, a random-maze generator, and an interactive game called Princess and the Dragons (designed mainly for a high-speed terminal such as the VT52).

User instruction manuals for PLOT and PLOTH in RUNOFF form are included. DECUS number 11-381.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



**PLOT-11/RSTS and PLOT-11M for RSX****PDP-11 Operating System:** RSTS, RSX**Keywords:** • Device drivers/handlers • Mapping

Memory required: 4KW.

These two software packages contain a set of FORTRAN-callable graphics subroutines and an XY11 plotter driver that gives the user a versatile plotting capability. Output can be plotted on line or spooled to a mass-storage device for later plotting.

Both packages can be interfaced to many plotters, providing the user with drum, fanfold, or flatbed capabilities. Single-pen plots of .01 inch, .005 inch, or 0.1 millimeter steps can be generated at speeds of up to 200 steps a second.

The subroutine packages include convenient routines for character or line drawing. Either axis or both axes can be addressed in positive or negative incremental steps. The graphics subroutine library requires 4000 words of memory and consists of the following:

- PLOT performs a straight-line move of the pen to a new position relative to a reference point. The pen may be either plotting or in transition.
- WHERE records the current pen location and plot-sizing factor.
- SYMBOL plots characters of specified height, beginning at defined X-Y coordinates and at a specified angle with respect to the X-axis.
- LINE defines the plotting of a graph from an array of points.
- AXIS plots the labeled axis from a specific point.
- NUMBER plots a floating-point number at a specified height, beginning at a defined position and at a specific angle with respect to the X-axis. The number of decimal places may be specified.
- FACTOR changes the size of the plot by a specified plot-sizing ratio.
- SCALE calculates a scaling factor and a range for an input array in conjunction with LINE and AXIS.
- NEWDEV provides the ability to change the logical unit number, device output, and file name of the output plot file. The output device for this feature cannot be an ASCII-formatted magnetic tape.

DECUS number 11-504 (PLOT-11/RSTS); DECUS number 11-502 (PLOT-11M).

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**PLOT-11/RT****PDP-11 Operating System:** RT-11**Keywords:** • Device drivers/handlers • Mapping

Memory required: 4KW.

This software package contains a set of FORTRAN-callable graphics subroutines and an XY11 plotter driver, which provides the user with a versatile plotting capability. Output can be plotted on line or spooled to a mass-storage device for later plotting.

PLOT-11/RT with the XY11 Plotter Control can be interfaced to many plotters, providing the user with drum, fanfold, or flatbed capabilities. Single-pen plots of .01 inch, .005 inch, or 0.1 millimeter steps can be generated at speeds of up to 200 steps a second.

The subroutine package includes convenient routines for character or line drawing. Either axis or both axes can be addressed in positive or negative incremental steps. The graphics subroutine library requires 4000 words of memory and consists of the following:

- PLOT performs a straight-line move of the pen to a new position relative to a reference point. The pen may be either plotting or in transition.
- WHERE records the current pen location and plot-sizing factor.
- SYMBOL plots characters of specified height, beginning at defined X-Y coordinates and at a specified angle with respect to the X-axis.
- LINE defines the plotting of a graph from an array of points.
- AXIS plots the labeled axis from a specific point.
- NUMBER plots a floating-point number at a specified height, beginning at a defined position and at a specific angle with respect to the X-axis. The number of decimal places may be specified.
- FACTOR changes the size of the plot by a specified plot-sizing ratio. DECUS number 11-503.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **PLOT: Digital Incremental Plotter Software Package**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Mapping  
• Mathematics

This package consists of five MACRO-11 source modules containing FORTRAN-callable routines. A FORTRAN source tape for a demonstration program is also included. The subroutines in the foundation modules handle interrupt-driven vector plotting, origin resetting, vector scaling, dotted-line plotting, and Y-motion limiting to prevent loss of origin. In addition, a subroutine to implement a circular buffer to buffer the plot vectors is provided. The other modules contain utility subroutines that call the subroutines in the first module. A small 64-character lettering routine is provided for use where core space is restricted. A more sophisticated, 157-character symbol-plotting subroutine exists and is expandable to many times that number. PLOT contains upper- and lowercase Roman and Greek alphabets and standard math symbols. An axis-plotting subroutine plots a linear or logarithmic coordinate axis at an arbitrary angle. DECUS number 11-211.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)



### **PLOT3D: 3-D FORTRAN Plotting Package for MINC-11/VT105/HP-9872A**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mapping • Modeling/simulation

Memory required: 64K.

This enhancement package generates a 3-dimensional representation of data that can be visually rotated or tilted to any viewing aspect. The package is particularly useful in illustrating trends and interrelationships between variables in multidimensional problems.

The program accepts up to 330 observations with up to 6 associated variables. The user selects a subset of three (X,Y,Z) from the six for display. Data can be entered through the keyboard or through a reference to an RT-11 disk file generated during a previous plotting session.

The output can be directed to the VT105 display or to an on-line X-Y plotter (HP-9872A) interfaced to MINC by way of IEEE-488. Use of the plotter option requires the additional hardware/software support mentioned above. In the latter case, a special FORTRAN character-generation routine, which allows plotting of up to 72 types of data markers, is included. DECUS number 11-514.

Note: Complete installation instructions, sample test cases, and documentation are included.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **PLOT50 (Vector Plotting for the LA50)**

**PDP-11 Operating System:** RSX

**Keywords:** • Engineering • Mapping • Scientific

This RSX-11M-based plotting package comes with FORTRAN-77 and BASIC-PLUS-2-callable subroutines and a plotting utility. All three can exploit the 1152-dot horizontal resolution of the LA50.

An 8" × 11" page image file holds all the user's plotting requests. Pieces of the image file can be selectively copied, erased, or "drawn on," using the plotting utility or either of the subroutines provided.

Full-vectored point-to-point plotting, with simulated "pen" control, is supported with user-selectable origin and data scaling. The user specifies an origin and scale that allows the data to fit on an 8" × 11" page of the LA50. The image file can be "drawn on" by several users or programs, each using a different section or overlapping sections. Once all the desired images have been drawn, the plotting utility will create a compressed ASCII file of escape sequences capable of driving the LA50. That output file can be included in user text files, using standard DIGITAL editors such as EDT. That feature also permits the combining of multiple files, making for a virtually endless plotting surface.

**Price:** \$79

**Contact:** Michael W. Velten  
(602) 242-9401  
VR SYSTEMS  
7404 N. 51st Avenue  
Glendale, AZ 85301

### **PLOT55 for RSX-11**

**PDP-11 Operating System:** RSX

**Keywords:** • Presentation aids

These FORTRAN-callable subroutines provide graphics capabilities on VT55 and VT105 terminals. Those routines were distributed as part of RSX-11M and RSX-11M-PLUS until Version 1.0 was discontinued. A short FORTRAN program demonstrating the use of the subroutines is also included. DECUS number 11-538.

Associated documentation: The *PLOT55 Programmer's Reference Manual* (AA-4949A-TC) is available through DIGITAL, not through DECUS. The manual may be obtained by contacting your local DIGITAL sales representative.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **PLOT55 for the VT125 (VT105 Emulator) Under RT-11 FORTRAN**

**PDP-11 Operating System:** RT-11

**Keywords:** • Text management

This software permits RT-11/FORTRAN programs using PLOT55 to function on the VT125 equipped with the VT105 emulator. The kit contains the source file PLOT55.MAC, which can be assembled into the module PLOT55.OBJ and used as a direct substitute for the object module used on the VT105 and VT55. (The text- and screen-handling functions require that the terminal be in VT52 emulator mode.)

The distribution medium also contains all the sample programs in the manual (FORTRAN routines) as they exist in the manual to test the behavior of the module. The file names for the programs are of the form CxPyy.FOR, where x is the chapter number, and yy is the page on which the example is found. COM files can be used to compile and link the examples.

A bug in one of the programs — C2P19.FOR — shows up on both the VT105 and the VT125. The use of the argument 69 (erase from cursor to end of screen) does not function.

Associated documentation: The *PLOT55 Programmer's Reference Manual* (AA-4949A-TC) is available through DIGITAL, not through DECUS. The manual may be obtained by contacting your local DIGITAL sales representative. DECUS number 11-539.



**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **PLOTTPR.BAS:GIGI/DECwriter IV**

**PDP-11 Operating System:** RSTS

**Keywords:** • Mapping • Printing

Memory required: 16KW.

PLOTTPR displays on a GIGI/ReGIS terminal bivariate data or user-supplied functions on an x-y Cartesian coordinate axis. Up to five data sets or functions can be plotted on the same graph. Hard copy to a DECwriter IV LA34 Graphics Printer is activated on user request, with different format size options. The programming language is BASIC-PLUS. DECUS number 11-764.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **Plotting Package for RT-11 FORTRAN**

**PDP-11 Operating System:** RT-11

**Keywords:** • Device drivers/handlers • Mapping  
• Mathematics

This package allows FORTRAN programs to use a digital incremental plotter. Facilities are provided for generating line segments; plotting symbols, alphanumeric characters, and linear or logarithmic coordinate axes; and scaling linear or logarithmic data. The package is programmed for a Houston Instrument "HILOT" plotter connected to a serial interface but is easily reprogrammed for other plotters and/or interfaces. DECUS number 11-431.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **PLOTXY.BAS: GIGI/Houston Instruments DMP29R X-Y Plotter Graphics Utilities**

**PDP-11 Operating System:** RSTS

**Keywords:** • Mapping • Printing • Software utilities

Memory required: 16KW.

PLOTXY displays on a GIGI/ReGIS terminal bivariate data or user-supplied functions on an x-y Cartesian coordinate axis. Up to five data sets or functions can be plotted on the same graph. Hard copy to a Houston Instruments DMP-29R X-Y Plotter is activated on user request, with different format size options. The programming language is BASIC-PLUS. DECUS number 11-763.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

**PLXY-11M****PDP-11 Operating System:** RSX**Keywords:** • Data conversion • Mapping  
• Pre- and postprocessors • Printing

This package gives the RSX-11M user access to the plotting capabilities of the LXY graphics printer. The package consists of a library of FORTRAN-callable graphics subroutines, a postprocessing program to create a plot file, and a task to initiate the postprocessing task off line.

The PLXY-11M user writes FORTRAN application programs, using the graphics facilities provided by the PLXY-11M subroutine library. Those subroutines convert the user's graphics requests into a series of vectors stored on an intermediate (vector) file. Vector data from that file is sorted and formatted into LXY graphics printer plottable data (raster format) by the postprocessing program. The plottable data is stored in an intermediate file from which the data can be subsequently transferred by way of a system utility to the LXY graphics printer. Output to the LXY graphics printer is directed through the standard LP11 line printer driver.

Facilities are provided to automatically queue postprocessing of the vector file by the user application program. Alternatively, the PLXY-11M MCR interface task accepts command strings to queue postprocessing of named files. Several files may be queued simultaneously by way of indirect command file control.

The PLXY-11M subroutine library includes routines for character and line drawing. As all operations are program controlled, either axis or both axes can be addressed in positive or negative incremental steps.

Refer to SPD #14.39.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

**PLXY-11M-PLUS and PLXY-11/RSTS****PDP-11 Operating System:** RSTS, RSX**Keywords:** • Data conversion • Mapping  
• Pre- and postprocessors • Printing

These packages give the RSX-11M-PLUS or the RSTS/E user access to the plotting capabilities of the LXY graphics printer. Each package consists of a library of FORTRAN-callable graphics subroutines and a postprocessing program to create a plot file.

The PLXY-11M-PLUS or PLXY-11/RSTS user writes FORTRAN application programs, using the graphics facilities provided by the appropriate subroutine library. Those subroutines convert the user's graphics requests into a series of vectors stored on an intermediate (vector) file. Vector data from that file is sorted and formatted into LXY graphics printer plottable data (raster format) by the postprocessing program. The plottable data is stored in an intermediate file from



which the data can be subsequently transferred by way of a system utility, such as PIP, to the LXY graphics printer. Output to the LXY graphics printer is directed through the standard LP11 line printer driver.

The PLXY-11M-PLUS and PLXY-11/RSTS subroutine libraries include routines for character and line drawing. As all operations are program controlled, either axis or both axes can be addressed in positive or negative incremental steps.

For the PLXY-11M-PLUS user, facilities are provided to automatically queue postprocessing of the vector file by the user application program. Alternatively, the PLXY-11M-PLUS MCR interface task accepts command strings to queue postprocessing of named files. Several files may be queued simultaneously by way of indirect command file control.

Refer to SPD #14.71.xx (PLXY-11M-PLUS) or SPD #14.16.xx (PLXY-11/RSTS) when requesting further information on these products from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **PLXY-11/RT**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion • Mapping  
• Pre- and postprocessors • Printing

This package gives the RT-11 user access to the plotting capabilities of the LXY graphics printer. The package consists of a library of FORTRAN-callable graphics subroutines and a postprocessing program to create a plot file.

The PLXY-11/RT user writes FORTRAN application programs, using the graphics facilities provided by the PLXY-11/RT subroutine library. Those subroutines convert the user's graphics requests into a series of vectors stored on an intermediate (vector) file. Vector data from that file is sorted and formatted into LXY graphics printer plottable data (raster format) by the postprocessing program. The plottable data is stored in an intermediate file from which the data can be subsequently transferred by way of a system utility to the LXY graphics printer. Output to the LXY graphics printer is directed through the standard LP11 line printer driver.

The PLXY-11/RT subroutine library includes routines for character and line drawing. As all operations are program controlled, either axis or both axes can be addressed in positive or negative incremental steps.

Refer to SPD #12.42.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

**PRO/IVIS Loadable Driver and Subroutine Library****PRO Operating System:** P/OS**Keywords:** • Device drivers/handlers • Software utilities

This software consists of a PRO-350 Loadable Device Driver; a Subroutine Library for PRO/Tool Kit Languages; the Maintenance Services Module, which supports IVIS and its videodisc player, and an Installation Verification program. These pieces of software are shipped with the IVIS hardware (PC3VS-A).

This PRO-350 application program, when installed, links itself into P/OS and acts as a standard device driver. Programs make requests of the IVIS hardware (PC3VS-A) and issue control sequences through the IVIS interface to the supported videodisc player through the driver by using the regular QIO directives mechanism.

The PRO/IVIS Subroutine Library is a P/OS Clustered Library that interfaces to the IVIS device driver for those Tool Kit Languages that may not issue device driver requests directly. Its functions are the same as the driver except for one; when the library initialize routine is called, the device driver is loaded into memory and started. This alleviates any need to request the driver by the main program.

The functions executable by the driver and callable through the Subroutine Library can be divided into those that control the IVIS hardware and those that control an attached videodisc player. All functions that are actually performed in the videodisc player are subject to the functional limitations of the player being utilized.

P/OS hard disk and PRO/Installation and Maintenance are prerequisite.

Refer to SPD #40.38.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

**PRO/SIGHT****PRO Operating System:** P/OS**Keywords:** • Mapping • Menu handlers

This object-oriented, interactive graphics editor allows you to create a variety of pictures, ranging from simple organizational charts to complex graphics arts images. You can draw with cursor keys, a mouse, or a digitizing tablet. A set of menus at the bottom of the screen allow you to select colors, fill patterns, brush styles, text fonts, and standard shapes to include in the picture. They also allow you to choose any eight of 256 possible colors (4096 possible colors with a Professional 380). Editing functions include the ability to move, copy, delete, or change the color or fill pattern of objects.

Once created, the picture can be output on a variety of plotters or dot matrix printers or stored in a GIDIS file to be recalled for future use or sent to another Professional.



P/OS hard disk operating system is prerequisite.

Refer to SPD #40.46.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$295

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **QUEST Graphical and Text Information System**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Architecture • Information management  
• Presentation aids • Text management

QUEST is a generalized subset of the larger BADGER system, developed for the Scottish Education Department and the Department of Education and Science and used for the COSLA/SED National School-building Survey. QUEST allows the recording and viewing of information held as plain language text linked to drawings. Access to records is obtained by hierarchically ordered text headings or by pointing at drawings. Typically, drawings can be building plans or diagrams depicting an organizational structure. QUEST includes procedures for tracing (digitizing) from existing drawings to a computer and for capturing text data through user-designed forms (templates) on a display screen.

The system, written in C, requires any computer that runs full UNIX\* Version 7, System III, BSD 4.2, or commercially available versions, such as XENIX or UNITY. Smallest configurations include DIGITAL's LSI-11/23 microprocessor with 22-bit addressing, with at least 256KB memory and 10MB hard disk, as well as back-up media. Available hardware includes more powerful Motorola 68000- or National Semiconductor-based microcomputers, such as the Whitechapel MG1, at similar cost.

Peripherals include a raster graphics terminal, such as the Westward GT1015 or GT2015; a graphics plotter, such as the Hewlett-Packard 7475 (A3) or 7580/5 (A1/0); a digitizer, such as the TD HR-48 or Summagraphics ID-36; and a dot matrix or daisywheel printer. Equipment can be obtained independently of software; consulting services are offered on the selection, purchase, and commissioning of equipment.

A version of this product is available for VAX computers.

**Price:** £10,000

**Contact:** Aart Bijl

44-(031) 667 1011 ext. 4598

EDCAAD, DEPARTMENT OF ARCHITECTURE

University of Edinburgh

20 Chambers Street

Edinburgh EH1 1JZ United Kingdom

## **RAM**

**PDP-11 Operating System:** RSX

**Keywords:** • Device drivers/handlers

Memory required: 3K.

RAM consists of two programs: XM, a handler written in MACRO-11, and RM, a FORTRAN IV-PLUS interface subroutine. XM allows interrupt-driven DMA I/O with a RAMTEK 9050-series display interface under RSX-11D. RM can be used to retain compatibility with RAMTEK's FORTRAN graphics package. DECUS number 11-406.

Note: Needs slight change to work on 22-bit machine.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **Real-Time Interface Support for the Nicolet Explorer by the RS2232**

**PRO Operating System:** P/OS

**Keywords:** • Device drivers/handlers • File transfer

• Real time • Software utilities

This package permits the PRO-350 user to control, receive data from, and send data to the Nicolet Explorer Model 2090 Oscilloscope, using an RS232 port on the PRO Real-Time Interface board. The application program can also graph the data, sort and retrieve from disk files and perform a simple FFT, and graph the real or imaginary component or the power spectrum of the transformed data. The program, written as a demonstration of the PRO-350 real-time interface, is entirely menu driven. DECUS number PRO-121.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **ReGIS CAI Primer**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction

This computer-assisted instruction course on the use of ReGIS, the Remote Graphics Instruction Set firmware, is resident in the GIGI graphics terminal (SPD #30.10.xx). Instruction is presented on line through a GIGI terminal connected to a RSTS/E, a VAX/VMS, or a TOPS-10 operating system host. The course's seven instructional modules explain the GIGI's firmware graphics language, the Remote Graphics Instruction Set (ReGIS). Those modules cover the specification of screen and writing attributes, as well as basic graphics entities, such as points, circles, vectors (lines), text, and curves. The course takes between six and eight hours to complete.

Refer to SPD #30.12.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for VAX computers.



**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **RGL/11**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Mapping

This FORTRAN-callable graphics library is for RT-11 Single-Job (SJ), Foreground/Background (FB), and XM monitors and for RSX-11M operating systems supporting the VT125. RGL/11 is a subset of and upwards-compatible with the VAX ReGIS Graphics Library product. RGL/11 features picture drawing and data plotting facilities. RGL/11 replaces, and is compatible with, RGL/FEP.

Refer to SPD #14.62.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Rhintek Plot Package**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • CAD/CAM • Printing

This complete software plotting package of routines for Printronix printer/plotters attached to DIGITAL's systems is supplied in source form and can be adapted by the customer to drive any printer capable of plotting. This package, written in FORTRAN, can directly replace the standard CalComp-type software subroutines in plotting programs. The routines can produce an equivalent plot on a printer/plotter, without any program changes. The package forms an overlay capability and has been used in the field for several years. The package mixes printing and plotting.

Two packaged plot routines are provided for a user who needs a quick plot capability. The resulting plots are appropriately scaled, and the axes are automatically annotated to produce a useful result. The two routines are PPLXY, for a linear 1-page plot with two variables, and PPLDB, for a logarithmically scaled 1-page plot.

A version of this product is available for VAX computers.

**Price:** \$1050 - \$1200

**Contact:** Heeth Clark

(301) 730-2575

RHINTEK INC.

P.O. Box 220

Columbia, MD 21045

### **Roger Williams College Collection**

**PDP-11 Operating System:** RSTS

**Keywords:** • Cost accounting • Mapping

- XYPLOT.BAS is a stand-alone 2-dimensional Cartesian plotting program that can plot three simultaneous functions on a GIGI (VK100) terminal. The user must enter one, two, or three functions in X as program lines within a subroutine and may introduce as many new variables as necessary, provided no existing program variables are used.
- ISOMET.BAS is a Cartesian plotting program that can plot a single function in X and Y on a GIGI (VK100) terminal. The plot appears in isometric projection. The user must enter the function as one or more program lines defining Z in terms of X and Y and may introduce new variables if needed, as long as no existing program variables are used.
- ACOUNT.BAS uses the MONEY program output as its input file to produce a report page for each project, listing the CPU, terminal, percent time spent processing, disk usage, quota, and percent quota for each PPN in the project. Those values are totaled for each project.
- SUMMER is used with ACOUNT in an academic environment. The output report (given any name), tabulates the connect time, CPU time, and disk storage total for each input report.
- CIPHER.BAS, an encryption/decryption program that operates on any file, including program source code, is menu driven and user friendly. The ability to enter standard file specs for input and output is the only requirement for use.

DECUS number 11-629.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **RSTS/E DECgraph-11**

**PDP-11 Operating System:** RSTS

**Keywords:** • Presentation aids • Printing

This interactive business graphics application enables the nontechnical user to create business graphs. Aided by picture-assisted menus, a user can input the data to be graphed, design the graph description, and combine them to create a graph file for display on the video terminal or printer. Thus, the data, design, and graph files are maintained independently, permitting modified or new data files to be used with a previously designed graph. Graphs can be created and stored on file for future use.

RSTS/E DECgraph-11 uses the capabilities of graphics terminals and graphics-mode printers. On monochrome terminals, graphics images can be represented in black-and-white formats with the use of selected fill and line patterns. On color terminals or monitors, graphs can be designed with four colors chosen from a list of 14.

DATATRIEVE-11 can be accessed to establish a RSTS/E DECgraph-11 data file; the information contained in that file can then be graphed by RSTS/E DECgraph-11. A program can also be written to access other data files and to establish a RSTS/E DECgraph-11 data file.



Refer to SPD #15.24.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for the VAX computer.

**Price:** \$80 – \$900

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **RSX-11M-PLUS DECgraph-11**

**PDP-11 Operating System:** RSX

**Keywords:** • Presentation aids • Printing

This interactive business graphics application enables the nontechnical user to create business graphs. Aided by picture-assisted menus, a user can input the data to be graphed, design the graph description, and combine them to create a graph file for display on the video terminal or printer. Thus, the data, design, and graph files are maintained independently, permitting modified or new data files to be used with a previously designed graph. Graphs can be created and stored on a file for future use.

RSX-11M-PLUS DECgraph-11 uses the capabilities of the graphics terminals and graphic-mode printers. On monochrome terminals, graphic images can be represented in black-and-white formats with the use of selected fill and line patterns. On color terminals or monitors, graphs can be designed with four colors chosen from a list of 14.

DATATRIEVE-11 can be accessed to establish the DECgraph-11 data file; the information in that file can then be graphed by DECgraph-11. A program can also be written to access other data files and to establish a DECgraph-11 data file.

Refer to SPD #13.26.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$900

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **RSX-11M VIGL**

**PDP-11 Operating System:** RSX

**Keywords:** • Data conversion

This library of FORTRAN-callable graphics subroutines provides the RSX-11M user with access to the graphics capabilities of the VS(V)11 graphics subsystem. RSX-11M VIGL graphics facilities provided by the VIGL subroutine library allow the user to create FORTRAN applications programs. The subroutines convert graphics requests into display lists containing VS(V)11-specific graphics instructions and use the VS(V)11 driver to send those display lists to the VS(V)11 graphics subsystem.

Refer to SPD #14.19.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **RSX-11/PROVUE**

**PDP-11 Operating System:** RSX

**Keywords:** • Asynchronous communication • Real time

This color graphics package can be linked dynamically to any real-time process to diagrammatically represent the status of that process. Either local or remote clusters can control up to four VS(V)11 color displays with keyboards and joysticks. Up to four remote clusters can be connected to the main CPU by way of asynchronous serial communications lines running at speeds up to 9600 baud or synchronous serial communications lines running at speeds of 56KB. A maximum of four VS11 color displays can be connected locally to the host computer's UNIBUS or Q-bus. The PROVUE subsystem supports up to 20 color display stations, depending on the host processor being used.

The microprocessor-based remote clusters have sufficient memory available to store up to four character sets, each of 128 characters, and eight pictures at any time. Thus, they are more quickly displayable than are those retrieved from the host computer disk storage and received through communication lines.

Each remote cluster system contains a TU58 that loads the remote cluster software system at power-up. The host software stores and retrieves picture information in both source and PROVUE form, converts that information from source to PROVUE form, and serves as the request interface between the display stations and the application tasks and vice versa.

A library of subroutines allows the application software to send messages to update specifically designated dynamic fields wherever they are displayed in the subsystem. The PROVUE subsystem ensures that the message is sent to all screens on which that dynamic field is displayed and converts the data to the format(s) required at each location on each screen.

Messages can also be sent back to the application task in the host from input generated at the subsystem keyboards.

The slave software manages the picture and character set buffers, the dynamic display and update of pictures according to messages received from the host software, and the control of the keyboards for the cluster. Additionally, that software controls the switchover between the PROVUE Dynamic System and the PROVUE On-Line Picture Editing System, where appropriate.

The remote slave software operates under RSX-11S. The host software operates under RSX-11M.

Refer to SPD #14.33.xx when requesting further information on this product from your local DIGITAL sales office.



**Price:** \$3125 – \$7250

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **RT-11/FORTRAN Support for the VT105 Emulator on the VT125**

**PDP-11 Operating System:** RT-11

**Keywords:** • File transfer

**Memory required:** 28KW.

This substitute for the VT105 graphics package published as DECUS number 11-435 provides a means of migrating programs written for the VT105 to the VT125 — the VT105 emulator that is standard on the VT125 terminal. No changes to user-written code are required, only relinking with the new library. DECUS number 11-537.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## **SATURN-GRAPH™**

**PDP-11 Operating System:** Micro/RXS, RSTS, RSX, RT-11

**PRO Operating System:** P/OS

**Keywords:** • Mapping • Presentation aids

**Memory required:** 64K bytes.

SATURN-GRAPH gives you three graphics modes in one package for producing simple or complex graphs; you need no graphics or programming experience. All modes provide full color displays (with color output capability), an infinite variety of pattern and density, and the ability to send graphs to a graphics printer or plotter without viewing on a screen.

- **Calc-Graphics mode** combines the capabilities of two SATURN® products — SATURN-GRAPH and SATURN's powerful electronic spreadsheet, SATURN-CALC.™ You tell SATURN-GRAPH where to find data in your spreadsheet, choose the graph type you want, and SATURN-GRAPH automatically produces that graph.
- **Interactive Graphics mode**, or “menu-driven” graphics, lets you interact with the graphics program to give it specific information about your data and instructions about type, color, and descriptive titles. You have greater control over the appearance of your graph and have a greater variety of types available. You can answer screen prompts in fill-in-the-blank format or accept the default descriptions provided, and the program generates your display.
- **User-defined graphics mode** enables you to use a graphics command language to custom design graphs and charts. You get the precision of a programming language, but you don't need to be a programmer to use it. You can display the same data in four ways on one screen; design a custom graph for a unique application; and store that graph in your system, edit the information, and regenerate it later with new data for your next report.

A version of this product is available for VAX computers.

**Price:** \$450 - \$1950

**Contact:** Michael Raimondi, Marketing Manager  
(612) 944-2452; (800) 328-6145; Tlx 290322 Saturn Edna  
SATURN SYSTEMS, INC.  
6875 Washington Avenue S., Suite 218  
Minneapolis, MN 55435

### **SCPLT: CRT Screen Plot Program**

**PDP-11 Operating System:** RT-11

**Keywords:** • Mapping • Presentation aids

Memory required: 8707 words.

This package can be used to create plots of up to four channels of data on any terminal that can be switched from an 80- to a 132-column format. The plots are oriented with the Y-axis along the left-hand margin and the X-axis at the bottom of the CRT screen or printer paper. Useful parameters associated with each data channel are typed or printed at the top of each plot. The plots are not high resolution but do provide useful information in a preliminary plotting analysis of data. A demonstration program is also included.

The package of programs was written in FORTRAN IV on a PDP-11/23 running under RT-11SJ Version 4.0. DECUS number 11-727.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SDM (Symbolic Drawing Machine)**

**PDP-11 Operating System:** RSX

**Keywords:** • CAD/CAM • Electronic • Engineering  
• Presentation aids

SDM is a highly sophisticated, easy-to-use program for the interactive development of circuit diagrams, flowcharts, data base structures, and other symbolic diagrams. SDM does not require a large computer or hard disk, and the only graphics hardware required is a B-size interactive plotter, which is both the input and the output device. (A Tektronix 4107 color video-based workstation is also available.)

SDM drawings are composed from four primitive element types: symbols, character strings, parameterized figures, and subpictures. Subpictures (sets of symbols, character strings, and parameterized figures) may be used to define other subpictures. A powerful feature of the SDM is that subpictures may be defined with linked data fields whose characters are requested for each copy of the subpicture drawn. For example, in drawing logic diagrams, a subpicture for a logic gate will request its reference designator characters each time the gate is drawn. Subpicture definitions may also be undefined back to their primitive elements to any desired level (of subpicture nesting). Thus, redefinition of a subpicture comprised of complex nested subpicture



sets is easy. A compiler for logic circuit diagrams is available. (Also see LDAT program for logic board design.)

Features of SDM include  $4096 \times 2731$ -point resolution, high-speed grid-independent element and interconnection addressing mechanisms, user-programmable function keys, full tag/drag network editing, 13 grid sizes and 4 character sizes (both expandable), 90-degree rotations of all elements, and minimal hardware requirements.

**Price:** \$5000

**Contact:** John Thorne

(818) 884-8957

CADMATICS®

21907 San Miguel Street

Woodland Hills, CA 91364

### **Simple Line and Bar Graph Program**

**PDP-11 Operating System:** RSX

**Keywords:** • Mapping

Memory required: 40KB.

This program allows the user to produce simple X/Y graphs on a CIT-101 terminal by way of the Selanar Graphics 101 board. Options include multiple-line and bar plots, data points editing, plot saving and recall, and creation of composite plots. DECUS number 11-661.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **SIMPLEPLOT Mark 2**

**PDP-11 Operating System:** CTS-300, RSX, RT-11

**PRO Operating System:** P/OS

**Keywords:** • Presentation aids • Scientific

SIMPLEPLOT Mark 2 is a device-independent library of FORTRAN subroutines for plotting graphs. Those subroutines make graph drawing easy for the nonexpert programmer. Facilities include linear/logarithmic/normal probability/polar scales and axes, multiple scales on single graphs, choice of smooth curves through sets of data, linear and quadratic regression, distinct broken lines and symbols, keys and titles, layout in pages and groups, grids, and histograms.

Drivers can be obtained for pen plotters, raster scan devices, refresh displays, and character devices.

A version of this product is available for VAX computers.

**Price:** £1050

**Contact:** David Butland

(44) 0274 309214

BRADFORD UNIVERSITY SOFTWARE SERVICES LTD.

29 Campus Road, Off Shearbridge Road

Bradford, West Yorkshire BD7 1HR United Kingdom

## **SIMPLEPLOT Mark 2 Section 2**

**PDP-11 Operating System:** RSX

**PRO Operating System:** P/OS, RT-11

**Keywords:** • Presentation aids • Scientific

SIMPLEPLOT Mark 2 Section 2, a major extension to the SIMPLEPLOT Mark 2 FORTRAN library, consists of approximately 60 user subroutines for representing data as contour plots and surface pictures. Data to the subroutines can be:

- Gridded: regular or irregular "tartan" grids
- Function definitions:  $z = f(x,y)$
- Arbitrarily spaced  $(x,y,z)$  values
- Data structured into elements as from finite element analysis programs

Facilities include triangulating irregularly spaced data, contouring from any of the data forms on Cartesian or polar charts, surface representations with hidden line removal, annotating surface pictures using  $(x,y,z)$  coordinates, and all the layout and labeling facilities of SIMPLEPLOT Mark 2 Section 1.

As an extension of SIMPLEPLOT Mark 2 Section 1, this software can address an unlimited range of graphics devices.

A version of this product is available for VAX computers.

**Price:** £1950 - £3000

**Contact:** David Butland

(44) 0274 309214

BRADFORD UNIVERSITY SOFTWARE SERVICES LTD.

29 Campus Road, Off Shearbridge Road

Bradford, West Yorkshire BD7 1HR United Kingdom

## **SIMPLEPLOT Mark 2 Section 4**

**PDP-11 Operating System:** RSX, RT-11

**PRO Operating System:** P/OS

**Keywords:** • Presentation aids

This extension to the SIMPLEPLOT FORTRAN library is used to produce visually arresting graphics output. The software offers enhanced keys and captions, shading, pie charts, and software characters.

A version of this product is available for VAX computers.

**Price:** £950 - £1800

**Contact:** David Butland

(44) 0274 309214

BRADFORD UNIVERSITY SOFTWARE SERVICES LTD.

29 Campus Road, Off Shearbridge Road

Bradford, West Yorkshire BD7 1HR United Kingdom



**STAG II Drawing System****PDP-11 Operating System:** ULTRIX-11**Keywords:** • Architecture • CAD/CAM • Civil engineering  
• Engineering

STAG produces useful, accurate, and detailed 2-D line drawings and 3-D perspective images. STAG offers line styles and color, curves, and hatching, with picture windowing and zooming, repetition, nesting, handing, rotation, stretching and scaling, optional variable and rotatable grids, and text fonts. Users control all 2-D and 3-D drawing operations through a display screen.

No computing skills are required, but users have to think logically about how they organize their drawing operations. Input is direct, through a graphics display. All variables affecting the construction of drawings are user controlled. Output is on either the display terminal or paper. Plotted output can be at selected scales.

STAG is written in C to run in a UNIX\* software environment. On-site expertise in operating with UNIX\* is required.

The system requires any computer that runs full UNIX\* V7, SIII BSD 4.2, or commercially available versions, such as XENIX or UNITY. Current smallest configurations include DIGITAL's LSI-11/23 microprocessor with 22-bit addressing, with at least 256KB memory and 10MB hard disk, as well as back-up media. Available hardware includes more powerful Motorola 68000- or National Semiconductor-based microcomputers, such as the Whitechapel MG1, at similar cost.

Peripherals include a raster graphics terminal, such as the Westward GT1015 or GT2015; a graphics plotter, such as the Hewlett-Packard 7475 (A3) or 7580/5 (A1/0); and a dot matrix or daisywheel printer. Equipment can be obtained independently of software; consultancy services are offered on selection, purchase, and commissioning of equipment.

STAG includes a data base management system that works efficiently on small computers, can be used for other computing applications, and allows adding applications. Included error trapping and recovery functions protect users from accidental loss of files.

A version of this product is available for VAX computers.

**Price:** £5000 – £11,000

**Contact:** Aart Bijl

(031) 667 1011 ext. 4598

EDCAAD, DEPARTMENT OF ARCHITECTURE

University of Edinburgh

20 Chambers Street

Edinburgh EH1 1JZ United Kingdom

**STRINGS (Storage and Retrieval Information Graphics)****PDP-11 Operating System:** RT-11**Keywords:** • CAD/CAM • Data base management  
• Data conversion • Mapping

STRINGS is a set of generic tools that allows the user to create an accurate digital data base, which may be composed of points, lines, polygons, and text. Points and lines may be associated with user-defined sets of symbology. All programs are interactive, tutorial, and menu driven for ease of use. The base package includes scaling for maps or drawings and registration in a variety of coordinate systems. Also included are digitizing, editing, polygon building, updating, and file-extending features. The highly interactive programs allow the user to inspect the work at each stage of the process. A high-level operating system with a complete set of file management utilities comes with the work station. Options include tabular data base management, which links to the graphics information; intersectional, proximity, and 3-dimensional analysis packages; plotting programs; and many others. Custom programming is done on request.

**Price:** \$45,000 – \$350,000**Contact:** Walter F. Munnikhsen  
(919) 834-9313

GEOBASED SYSTEMS, INC.

725 W. Morgan Street

Raleigh, NC 27603

**SURFAC****PDP-11 Operating System:** RSTS**Keywords:** • Mapping • Presentation aids**Memory required:** 28KW maximum.

This package for graphics representation of surfaces by contour and cross-hatched plots with hidden lines removed consists of three programs. SURGEN.BAS, MESH.B2S, and CONTUR.B2S produce contour and mesh (cross-hatched) plots of surfaces defined by single-valued functions  $Z = f(x,y)$ . The mesh plots are presented in true perspective, with hidden lines removed, and can be viewed from user-selected viewpoints. Input to each program is driven by a menu. SURGEN evaluates the user-supplied function over a regular rectangular  $xy$  grid, storing the function values in a virtual disk file, used as input by both MESH and CONTUR. As supplied, the programs drive an HP-2647A Graphics Terminal, but calls to the device-dependent subprograms are grouped and identified to facilitate replacement by analogous routines for other graphics devices. DECUS number 11-583.

**Note:** A user's guide and a programmer's guide that contain listings are included. Source listings, cross-reference files, and binary test data files are available on magnetic tape.



**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Tektronix Emulator for RSX-11**

**PDP-11 Operating System:** RSX

**Keywords:** • Device drivers/handlers • Modeling/simulation

Memory required: 64KW.

This emulator is available for VS(V)11 users under RSX-11M. The package allows users of Tektronix 4014s to run their existing software on the VS11, with its advantages of extra performance, flexibility, and color.

The package consists of an ACP, which accepts and converts Tektronix 4014 protocol from the user application into a VS11-compatible display file of graphics primitives. The file is then issued to the VS11 through the standard VS11 driver. DECUS number 11-655.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **TESS™ (The Extended Simulation System)**

**PDP-11 Operating System:** Independent

**Keywords:** • Data base management • Decision support  
• Modeling/simulation • Presentation aids

This software environment for simulation projects includes graphical model building, data management, presentation graphics, report generation, animation, and statistical analysis. TESS is written in FORTRAN and requires two megabytes of virtual memory.

A version of this product is available for VAX computers.

**Price:** \$15,000 - \$44,000

**Contact:** Customer Service Department  
(800) 428-7636

PRITSKER & ASSOCIATES, INC.

P.O. Box 2413

West Lafayette, IN 47906

### **TFONT (Text Font Design Program)**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Presentation aids • Printing • Text management

TFONT allows users to design their own text fonts and logos, which can then be used by STAG. Designs are created directly on the display screen, on a 40 × 40 grid, and are stored in font libraries that can be called from other programs.

The system is written in C to run in a UNIX\* software environment. On-site expertise in operating with UNIX\* is required.

The system requires any computer that runs full UNIX\* Version 7, System III, BSD 4.2, or commercially available versions. Current smallest configurations include DIGITAL's LSI-11/23 microprocessor

with 22-bit addressing, with at least 256KB memory and 10MB hard disk, as well as back-up media. Available hardware includes more powerful Motorola 68000- or National Semiconductor-based microcomputers, such as the Whitechapel MG, at similar cost.

Peripherals include a raster graphics terminal, such as the Westward GT1015 or GT2015; a graphics plotter, such as the Hewlett-Packard 7475 (A3) or 7580/5 (A1/0); and a dot matrix or daisywheel printer. Equipment can be obtained independently of software; consultancy services are offered on selection, purchase, and commissioning of equipment.

A version of this product is available for VAX computers.

**Price:** £1200

**Contact:** Aart Bijl

(031) 667 1011 ext. 4598

EDCAAD, DEPARTMENT OF ARCHITECTURE

University of Edinburgh

20 Chambers Street

Edinburgh EH1 1JZ United Kingdom

## VT, BD, BD011, and IOS

**PDP-11 Operating System:** RSX

**Keywords:** • Data conversion • Device drivers/handlers

• Mathematics

Memory required: VT and BD: 1024(decimal) words; BD011: 1255(decimal) words; IOS: 1108(decimal) words.

VT is an RSX-11D device handler for the Tektronix 4010 Graphic Display Terminal. The handler was coded to handle features of the 4010 scope, including cursor control for interactive use. The handler correctly interacts with MCR so that the 4010 can be used as a monitor control device. VT is an RSX-11D version of DECUS number 11-130.

BD is an RSX-11D device handler for an EG&G BD011 CAMAC branch driver. That driver permits flexible and efficient use of the EG&G CAMAC branch driver, particularly with regard to LAM-initiated data transfers. If a single task must control the branch driver, a subroutine, BD011, is provided that reduces the task-switching overhead incurred by the RSX-11D system.

IOS is a formatting package for access by assembly language routines. IOS converts single- and double-precision integers and floating-point numbers to or from an ASCII data set. The IOS package communicates with the data set through the RSX file services routines; thus, the formatting is device independent. The format control statement is identical to the standard FORTRAN conventions; A, D, E, F, L, O, R, X, and H format descriptors can be concatenated within the usual FORTRAN parenthetical contractions. (FP-11 floating-point processing is required for D, E, F, L format conversions.) The documentation is in comments on the program source files. DECUS number 11-328.



**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **VT105 Graphics Package**

**PDP-11 Operating System:** RSX

**Keywords:** • Mapping • Presentation aids

This package consists of 40 FORTRAN subroutines and 12 demonstration programs. The graphics subroutines enable you to use the VT105 as a graphics terminal; the demonstration programs include examples of some of the graphics subroutines. The package also includes three spline-fitting routines that enable you to draw smooth nonlinear curves for data where relationships cannot be easily defined mathematically. DECUS number 11-452.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **VT125 Graphics Hard Copy on an EPSON MX-80 Serial Printer**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Mapping • Printing

This collection of programs allows the user of a DIGITAL VT125 graphics terminal to generate hard copy of ReGIS graphics on an inexpensive EPSON MX-80 serial matrix printer. The user does not need to purchase expensive devices, such as a DIGITAL LA34 printer or a video hard-copy unit.

A subset of the programs can be used directly under RT-11 V4 to store the bit-map graphics produced by the VT125 terminal, recall a previously stored graph, and optionally produce a hard copy. However, greater utility can be achieved under the TSX-PLUS time-sharing system. By issuing a single command, the user can interactively or automatically initiate hard-copy plots of graphics that are displayed on the VT125. A FORTRAN subroutine can cause a hard copy of the current graph to be initiated from within a program. This feature is useful for generating automatic (unattended) hard-copy plotting of numerous plots within a FORTRAN program that uses ReGIS Graphics Library (RGL) software.

Two hard-copy output formats are available: small (4.5" × 8") or large (8" × 11"). DECUS number 11-600.

**Restrictions:** Under TSX-PLUS, a second serial line at 1200 baud must be dedicated to the auxiliary port of the VT125 (with an LSI-11/23). RT-11 can operate over a single port at 9600 baud.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **VT55 FORTRAN—Callable Functions**

**PDP-11 Operating System:** RSX

**Keywords:** • Compilers • Language enhancers • Mapping

**Memory required:** 1560 bytes.

VT55.MAC is a set of FORTRAN-callable procedures for performing only graphics functions on the VT55 display. Those procedures have simple sets of parameters and have easy-to-recall mnemonic names. Those procedures are implemented in the system RSX-11; however, they are easy to modify to other operating systems, because the only system directive is QIOW\$\$, used in one place. A simple task that restores VT55 to its original status, permitting its normal use, is also enclosed. DECUS number 11-408.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Wall**

**PDP-11 Operating System:** CTS-300, IAS, RSTS, RSX, RT-11

**Keywords:** • Architecture • CAD/CAM • Engineering

**Memory required:** 64K minimum.

This program, written in MACRO, draws a wall, based on user responses to prompts for the wall's dimensions and the dimensions of intersecting interior and exterior walls and windows. All lengths are entered in feet or inches, as required by the prompts. Angles of intersecting walls are measured in degrees in a counterclockwise direction from a reference line.

A version of this product is available for VAX computers.

**Price:** \$500 - \$15,000

**Contact:** Dean Lampman  
(513) 874-4499

STARFLO ENGINEERING  
4740 A Interstate Drive  
Cincinnati, OH 45246



## Health Care



Robert Eckert Jr./The Picture Cube

## **AISCorp. Medical Management Systems**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Medical  
• Scheduling

Memory required: 256KB.

This system for solo physicians, group practices and clinics, and hospital-based practices provides complete billing, automatic insurance processing, collection management, receivables management, practice management with procedure and diagnosis analysis, appointment scheduling, and medical records. With easy-to-use menu-prompted screens and parameters, the system provides the flexibility to produce a customized report without software change.

AISCorp. also offers G/L, A/P, and word processing packages. Complete service and support, with remote dial-up diagnostics and updates to the system software, are provided. Toll-free telephone support is available around the clock. On-site training is provided.

**Price:** Available upon request

**Contact:** Jeanne A. Gilreath

(201) 526-8100

AISCORP.

225 Jackson Street

Bridgewater, NJ 08807

## **Anatomic Pathology**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Information management • Medical

This modular system for the management of surgical pathology departments, including surgical (anatomical) pathology, cytology, histology, and autopsy functions, comes with integrated SNOMED coding and provision for unlimited free text. The highly interactive, easy-to-learn, on-line help system is available as an off-the-shelf package or with customization. Clinical and other vocabularies are stored in dictionaries that can be defined and maintained without programmer assistance. A report generator is included in the system, and unlimited user-defined reports can be created.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Denis R. Pombriant

(617) 964-7880

THE MUMPS COLLABORATIVE, INC.

797 Washington Street, Suite 1

Newton, MA 02160



**Apex Home Health Management System****PDP-11 Operating System:** RT-11**Keywords:** • Accounting • Billing • Payroll • Statistics

This system runs single-user and multiuser (TSX-PLUS) under RT-11 on the PDP-11/23 and 11/73. All four system modules — Visit Entry/Aged Receivables, Payroll, Accounts Payable, and General Ledger — also run on the Rainbow 100+ under MS-DOS.

The VE/AR module stores patient information for statistical and recertification reporting. Transaction Entry captures all necessary data to produce computer-printed and/or electronically transmitted Medicare, Medicaid, private insurance, and private billing claims for nursing visits, therapist visits, supplies, and DME. This module also produces reports for inventory control, employee time/cost analysis, and cost reporting.

Payroll accommodates multistate and multibranch agencies. Other features include PDOs, shift differentials, special employee deductions, and pension fund.

General Ledger has budget forecasting capabilities.

**Price:** \$7500 — \$35,000**Contact:** Holly Hollingsworth, Director of Software Development  
(404) 955-6375

APEX MEDICAL SYSTEMS, INC.

1759 Venlo Court, Suite N

Marietta, GA 30067

**APS (Accounts Payable System)****PDP-11 Operating System:** RSTS**Keywords:** • Accounts payable • Statistics

Designed for health care facilities, APS features choice of payment by invoice or payment on account; automatic check writing and tape-to-tape check reconciliation; direct disbursements that generate internal invoice and direct posting to general ledger with multiple G/L distributions; and on-line inquiry of invoices or payments.

A version of this product is available for VAX computers.

**Price:** Available upon request**Contact:** David M. Pollack  
(914) 423-3623

ADL DATA SYSTEMS, INC.

50 Stratton Street South

Yonkers, NY 10701

**Automated Voucher Payment System****PDP-11 Operating System:** RT-11**Keywords:** • Accounts payable • General ledger  
• Report writer

This system provides the Migrant Health Service with an accurate and efficient system for tracking outstanding vouchers. A method of paying providers for claims incurred by migrant farm workers is also provided.

All vouchers incurred are entered into the system; on demand, a listing of all outstanding vouchers is created. The system breaks each outstanding voucher into general ledger functions and amounts. The system provides an accounts payable listing of all vouchers ready for payment, their aging, and the means to select those vouchers to be paid and those to be deferred.

The system provides check writing for all requested vouchers, along with a check register and a payment register. Other reports include paid vouchers by payment register, a budget planning report, vouchers by schools, and total user reports, including type of voucher (medical, dental, educational), sex, age, provider, and location.

**Price:** \$3000

**Contact:** Charles E. Trapp, Director of Marketing  
(701) 235-7799

PROFESSIONAL DATA PROCESSING, INC.  
P.O. Box 8160  
Fargo, ND 58102

### **Bacteriology Module: Leadership Series™**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Billing • Biology • Data base management  
• Statistics

The Bacteriology Module provides a computerized data management system for a hospital microbiology laboratory. The on-line system produces statistical reports, as well as interim reporting of specimen results, including drug sensitivities; a complete report of bacteriology work for a patient being discharged; a daily master log of specimens; abnormal-results reporting; and instant 24-hour access to the bacteriology information stored in the computer. Bacteriology can be used simultaneously with the Laboratory, Blood Bank, Epidemiology, Pharmacy, and other chemical support systems available through Pentamation's Leadership Series.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David H. Shor, Director, Sales and Marketing  
(215) 691-3616

PENTAMATION ENTERPRISES, INC.  
One Bethlehem Plaza  
Bethlehem, PA 18018



**Basic Image-Processing System for CAT Scans****PDP-11 Operating System:** RT-11**Keywords:** • Graphics • Medical • Nuclear

Memory required: 16K.

This complete image-processing software system, written in FORTRAN/RT-11, contains programs for decoding magtapes in any arbitrary format and transferring selected contents to disk. Subsequent line-by-line processing of the CAT scan images produces averages, laplacians, gradients, median smoothing, and hyperbolic grey-level reassignments. An application of the system to images from an Ohio Nuclear Delta Scan is described. DECUS number 11-321.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**Billing and Accounts Receivable System****PDP-11 Operating System:** DSM (DSM-11)**Keywords:** • Accounting • Billing • Insurance • Medical

This system, written in DSM-11, allows laboratory and pathology organizations to produce statements, bills, insurance claim forms, and tape/electronic transmissions for a variety of laboratory testing services. The system also provides a full accounting capability with audit trails and appropriate accounting controls. For statements to clients, an extensive pricing system automatically accommodates multiple-fee schedules, medical-specialty pricing, client-specific pricing, multiple-profile levels, and unit volume, and base-business discounts. For bills to patients, the system supports detail statements with multiple follow-up and reminder bills. Insurance-processing features include carrier-specific pricing, profile assembly, procedure coding, diagnosis coding, and multiple-claim formats.

A version of this product is available for VAX computers.

**Price:** Available upon request**Contact:** Bryan LeBlanc

(214) 231-6591

RUBICON CORP.

1200 E. Campbell Road

Richardson, TX 75081

**Blood Bank Module: Leadership Series™****PDP-11 Operating System:** DSM (DSM-11)**Keywords:** • Billing • Data base management • Inventory  
• Statistics

The Blood Bank Module maintains and controls data in a hospital blood bank. Complete blood product inventory, blood unit status, and disposition of blood derivatives, transfusions, reactions, atypical antibodies, and test results are maintained on line. The module produces listings of short-dated units of blood, blood-release information,

and cross-match lists and interfaces with the ADT/Census and Registration Laboratory, and Pharmacy modules available through Pentamotion's Leadership Series.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David H. Shor, Director, Sales and Marketing  
(215) 691-3616

PENTAMATION ENTERPRISES, INC.

One Bethlehem Plaza

Bethlehem, PA 18018

### **C-11 Hospital Resource Management**

**PDP-11 Operating System:** RSX, RT-11

**PRO Operating System:** P/OS

**Keywords:** • Employment • Personnel • Report writer

This system converts health care administration tasks into a cohesive, automated system by providing on-line access to detailed employee records; salary, benefit, and performance data; and a comprehensive skills inventory. The system supports centralized hospital resource data in eight files, making it easy to access, update, sort, and print information; password protection for data security; inquiry capability for quick access to records and to ensure against data tampering; automatic updates of related files when information is entered into one file; a payroll interface for posting employee data, which includes a hold/release function to allow selection of data posted; a report writer interface to print customized reports; and parameter selection on reports.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$3000

**Contact:** Denis Peterson  
(516) 483-3123

CBM ASSOCIATES, INC.

955 Front Street

Uniondale, NY 11553

### **C-Chart System — Medical Accounting, Inventory**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Inventory • Medical  
• Pharmaceutical

The C-Chart System consists of several interlinked modules that serve as a comprehensive patient information system delivering demographic, medical, financial, and hospital data from admission through discharge. This data is retained and used in short- and long-term reporting. These capabilities are designed to meet the needs of small to medium-size hospital, home health agencies, clinics, and large medical groups. A DRG grouper is also available.



C-Chart's financial operations consist of two systems — Billing and Receivables — that allow for the automatic generation of daily charges; immediate inquiry into patient balances; automatic pricing; segmented and consolidated reporting; third-party billings, including the UB82; daily transaction journals; periodic cash reports; patient balance by primary payor; a physician's service report; payor analysis; revenue/receipts analysis; a receivables subsidiary ledger; an aged trial balance; balance-forward statements; statements of itemized attachments; and a generalized bill. Other features include response checking, description default, adjustment codes, uniform and automatic pricing, flexible coding schemes, and a multiple run of reports.

C-Chart's patient records are handled by two additional systems, which in turn interlock those defined in financial operations. The Admissions module records and stores information involving a patient's admission, discharge, personal data, and hospitalization; the Medical Records module allows for the entry of additional data related to intermediate diagnosis and principal procedures performed. This information is combined with data stored in the Admissions data base and formatted to facilitate medical record keeping.

The Material Management module tracks medical and supply items from their points of origin up to the moment they are dispensed to the patient. From such tracking, management can generate reports on items ordered, items received, items issued, monthly activity reports, stock status reports, reorder reports, and customized invoices.

C-Chart can be operated in a multiterminal/multilocation environment.

A version of this product is available for VAX computers.

**Price:** \$20,000 – \$80,000

**Contact:** Helen Abbott

1-800-221-2087 or (in GA) (404) 883-7664

C-PAK CORP.

202 W. Haralson Street

LaGrange, GA 30240

### **CAIRS Medical Librarian**

**PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX

**PRO Operating System:** P/OS

**Keywords:** • Library science • Research

This computer-assisted information/library retrieval system, developed by Leatherhead FRA, Leatherhead Surrey, United Kingdom, aids document management. Powerful Boolean searching generates sophisticated custom or standard reports. Featuring a thesaurus and decode functions, CAIRS can perform the equivalent of NLM's ELHILL term explosion. The thesaurus could be your own controlled vocabulary, a variant on MESH, or MESH itself. Any field can be validated for vocabulary and a variety of data entry rules. Search strategies can be saved. Later, current awareness profiles can be routinely run or customized.

A document request library enables the user to develop the kernel of an acquisition record. The acquisition librarian can then develop and catalog vendor orders.

Batch modules can accept data from key to disk, word processor, other applications, and new data bases. A MEDLARS subset data input option is also available. Other data base subsets can be imported and merged with internal material as an option.

From outside the United States, contact Information/Documentation, Inc., Box 17109, Dulles International Airport, Washington, DC 20041 (Telex: 903042).

A version of this product is available for VAX computers.

**Price:** \$1800

**Contact:** CAIRS Medical Library System Sales  
(703) 486-0900 or (800) 336-0800

INFORMATION/DOCUMENTATION, INC.

Box 46330, The Pentagon

Washington, DC 20050-6330

### **CAMS (Computerized Arrhythmia Monitoring System)**

**PDP-11 Operating System:** Independent, RSX

**Keywords:** • Data collection • Medical

This system is appropriate for use in the hospital ICU and CCU environment. CAMS detects, classifies, and stores arrhythmias and simultaneously trends physiological parameters and computes hemodynamic values.

In addition, CAMS uses a patented easy-to-use arrhythmia recall technique that offers a recall rate 200 times the speed of real time. Each recall frame contains 8 seconds of ECG. As a result, the clinicians can rapidly review, edit, and verify arrhythmias for more accurate diagnosis and treatment.

A single CAMS system can arrhythmia monitor and trend up to 32 patients. To accommodate multiple units within the hospital area, a total of 16 terminals can be added.

**Price:** \$80,000 - \$150,000

**Contact:** Mark A Goulet, National Sales Manager  
(617) 662-2227

PIONEER MEDICAL SYSTEMS

37 Washington Street

Melrose, MA 02176

### **CAPS**

**PDP-11 Operating System:** CTS-300, Micro/RSTS, RSTS, RT-11

**Keywords:** • Accounts receivable • Inventory  
• Pharmaceutical

This complete system for retail pharmacies includes modules for patient file (profile), label printing, third-party billing, pharmacy



inventory, sales, and more. The system, written in DIBOL, is menu driven, and access to patient records is by name or Rx number.

**Price:** \$2500 – \$5000

**Contact:** James A. Gross  
(219) 232-7921

COMPUTER ASSOCIATES, INC.

P.O. Box 328A

South Bend, IN 46624

## CARE/DM

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**Keywords:** • Accounts receivable • Dental  
• Information management • Medical

CARE/DM is a medical and dental office automation system used interactively to capture, control, process, and analyze patient service information. The system emphasizes accounts receivable management: service capture, billing, insurance forms preparation, and collection control. The primary design goal is to provide a single source of information entry with the automatic maintenance, application, and distribution of patient service information. Uniform processing procedures have been implemented to increase the accuracy, productivity, and effectiveness of administrative personnel.

The system includes patient information registration and billing, automatic insurance processing and ECS, microfiche records/magnetic supply inventory, management recall-notice preparation, referral tracking, contract payment plans, walk-out statements, collection tracking and follow-up, letter writing, dental processing, model and storage inventory, access control and help, mail messages, notices, and parameter selection to provide customization for all medical/dental specialties, without programming changes.

This software can be licensed for single or multiuser timesharing, software distributors, and care centers as a turnkey system for single or group practices or for hospital physician billings. CARE/DM's parameter-driven structure provides flexibility for the multispecialty environment, with no limit on the number of physicians or patient accounts (subject only to the size and performance of the CPU and disk).

A version of this product is available for VAX computers.

**Price:** \$5000 – \$50,000

**Contact:** Karla Brady  
(217) 529-0255

CARE INFORMATION SYSTEMS, INC.

3695 S. Sixth Street Road

Springfield, IL 62703

## **CHARGER**

**PDP-11 Operating System:** RSTS

**Keywords:** • Calculation aids • Financial analysis • Statistics

Memory required: 256K.

This DRG (Diagnosis Related Group) prospective pricing software package for hospitals provides statistical and financial information based on the latest government DRG regulations for patient reporting and reimbursement. CHARGER automatically recognizes and flags per-diem or day- or cost-outlier conditions and calculates per-diem or outlier adjustments. The package separately projects both the direct reimbursement from health care intermediaries and the total reimbursement to teaching hospitals, including federal educational reimbursements. CHARGER interfaces readily with other hospital systems, such as billing, patient records, and case-mix analysis, to generate statistical reports and projections and may also be used interactively for evaluating individual cases.

A version of this product is available for VAX computers.

**Price:** \$3000

**Contact:** Martha A. Scott

(617) 861-0670

EVANS GRIFFITHS & HART, INC.

55 Waltham Street

Lexington, MA 02173

## **Checker**

**PDP-11 Operating System:** RSTS

**Keywords:** • Medical

Memory required: 256K.

Checker spots and flags a wide range of coding errors and checks inconsistencies on Medicare claims, including errors involving age, sex, invalid codes, nonspecific procedures, unacceptable principal diagnoses, and questionable admissions. Checker uses the same code-checking algorithm as MCE, the official medical code editor software distributed to fiscal intermediaries throughout the United States. This package can be incorporated into an existing information system or can be run stand alone by one or more users.

A version of this product is available for VAX computers.

**Price:** \$3000

**Contact:** Martha A. Scott

(617) 861-0670

EVANS GRIFFITHS & HART, INC.

55 Waltham Street

Lexington, MA 02173



**CLIN-TEAMS®/Remote****PDP-11 Operating System:** RSX**Keywords:** • Data collection • Medical • Scientific

Developed by Technical Evaluation and Management Systems, Inc., this integrated, user-friendly, menu-driven, and protocol-driven system of programs is written for the clinical trial environment. The system is offered in a BASIC-PLUS-2 version to run under RSX-11M or VMS operating systems and, with the appropriate software, can be transferred to small, remote computers for data collection. Data is collected by filling in case report form images on the CRT in the investigator's office. A simultaneous-journaling option permits on-site generation of hard-copy CRFs. Data can be transferred back to a host computer at predetermined intervals for integration into the central data base.

Data collection formats for new studies can be set up (protocol compiled) interactively without reprogramming. Branching logic within the system enables the user to go to specific questions, based on the response to the current question.

CLIN-TEAMS/Remote provides the audit trails required by FDA guidelines. Additionally, CLIN-TEAMS/Remote provides a monitoring report-generating facility that allows the user to tailor interim reports; allows the unloading of data to a sequential data file for use with statistical-analysis programs such as SPSS, BMDP, and SAS; and allows other programs to run while CLIN-TEAMS/Remote is being used. Thus, CLIN-TEAMS/Remote can fit into a multiuser, multiprogramming environment on the host computer.

A version of this product is available for VAX computers.

**Price:** \$46,500**Contact:** Floyd E. Leaders, Jr., Ph.D.  
(214) 386-5764

TECHNICAL EVALUATION AND MANAGEMENT  
SERVICES, INC.

13601 Preston Road, 820 Carillon Tower West  
Dallas, TX 75240

**Clini-CAL® Laboratory Information System****PDP-11 Operating System:** RSX**Keywords:** • Data base management • Medical • Scientific

This comprehensive turnkey system for both large and small clinical laboratories is written in FORTRAN and interfaces with most lab instrument devices. Customized to meet a laboratory's specific needs, Clini-CAL computerizes laboratory data, generates reports, and manages quality control, sample processing, and billing. The system can be used in the clinical pathology laboratory, pulmonary respiratory therapy, and patient registration.

The system provides improved patient care through reduced turn-around time for routine and stat tests with DRG statistics and legible, concise test requests and reports; performs simplified statistical analysis; identifies abnormal results; and eliminates misplaced, erroneous billings.

A version of this product is available for VAX computers.

**Price:** \$99,500 – \$900,000

**Contact:** Allan G. Penny  
(617) 237-7055

SYSTEM ANALYSIS CORP.

1 Hollis Street  
Wellesley, MA 02181

### **Clinical Data System Application Package and West Midlands RHA Blood Bank System**

**PDP-11 Operating System:** DSM (DSM-11), Micro/RXS, RSX

**Keywords:** • Data base management • Medical

• Software utilities • Word processing

This easy-to-use yet completely configurable information system enables doctors and paramedics to find screens and names and allows data collection and presentation in the most appropriate manner. Included are such powerful features as inquiries, report generation, graphics, integrated statistics, and letter writing. The package is installed in more than 70 sites worldwide in a variety of clinical applications.

The software runs under RSX-11M and requires at minimum a PDP-11/23, floating point, and 512K bytes of RAM.

**Price:** \$20,000 – \$200,000

**Contact:** D. G. Lewis  
01144 994-6477

CLINICAL COMPUTING LTD.

10 Barley Mow Passage  
London W4 4PH United Kingdom

### **Clinical Support Systems: Leadership Series™**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Billing • Data base management • Statistics

These systems provide interactive processing for hospital ancillary needs: bacteriology, blood bank, dietary, laboratory, laundry, pharmacy, and radiology. Timely and accurate ancillary service processing is promoted through easy access to and verification of patient diagnosis and biographic data from the patient data base. This integrated system features drug interaction and sensitivity analysis, abnormal-results reporting, blood product inventory, transfusion-reaction lists, test results reporting, IV and medication orders processing, delivery and production reporting, automatic assignment of specimen numbers, and



complete capture of charges for transfer to the appropriate financial offices.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David H. Shor, Director, Sales and Marketing  
(215) 691-3616

PENTAMATION ENTERPRISES, INC.  
One Bethlehem Plaza  
Bethlehem, PA 18018

### **CMIS (Mental Health Management Information System)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Financial management • Mental health  
• Report writer • Spreadsheets

CMIS, written in DIBOL, includes third-party billing, clinical and statistical reporting, financial data, and a report generator. This software is used in mental health clinics.

**Price:** Available upon request

**Contact:** David German  
(617) 245-5974

ALLEN ASSOCIATES, INC.  
968 Main Street  
Wakefield, MA 01880

### **CO-LAB**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Chemical • Information management • Medical

This modular system is for the management of clinical laboratories, including chemistry, hematology, serology, urine analysis, microbiology, and virology departments. The highly interactive, easy-to-learn, on-line help system is available as an off-the-shelf package or with customization. Clinical and other vocabularies are stored in dictionaries that can be defined and maintained without programmer assistance. A report generator is included in the system, and unlimited user-defined reports can be created.

A version of this product is available for VAX computers.

**Price:** \$50,000 - \$100,000

**Contact:** Denis R. Pombriant  
(617) 964-7880

THE MUMPS COLLABORATIVE, INC.  
797 Washington Street, Suite 1  
Newton, MA 02160

### **Collaborative Clinic System**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Financial management • Medical

This comprehensive financial management tool for clinics, group practices, health maintenance organizations, and other medical service suppliers includes modules for billing, accounts receivable, appointments scheduling, management reports, medical records, general ledger, and accounts payable. The highly interactive, easy-to-learn, on-line help system is available as an off-the-shelf package or with customization. Clinical and other vocabularies are stored in dictionaries that can be defined and maintained without programmer assistance. A report generator is included in the system, and unlimited user-defined reports can be created.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Denis R. Pombriant

(617) 964-7880

THE MUMPS COLLABORATIVE, INC.

797 Washington Street, Suite 1

Newton, MA 02160

### **COMPCARE (Comprehensive Care Centers)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • General ledger  
• Medical

The COMPCARE system covers patient history, billing (including third parties), payroll, general ledger, statistics, grant reporting, HHS reports, and so on. The system components are interactive, user friendly, and complete — for use in house or on a time-share system.

A version of this product is available for VAX computers.

**Price:** \$30,000 +

**Contact:** Nathan I. Lieberman

(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.

1010 S. Weinbach Avenue

Evansville, IN 47714-2994

### **Comprehensive Blood Bank System**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Accounting • Information management • Medical

This product, written in DSM, addresses both the medical and financial requirements of the regional blood bank and includes donor solicitation and recruitment, blood processing and testing, blood and blood products inventory control and disbursement, patient compatibility and cross match, and administration and finance. Those features greatly assist in the recruitment of donors, as well as in the long-term record-retention requirements of blood banks.



A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bryan LeBlanc  
(214) 231-6591

RUBICON CORP.  
1200 E. Campbell Road  
Richardson, TX 75081

### **COMPU-CHART — Medical Records Program for Long-Term-Care Facilities**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data entry • Medical • Pharmaceutical  
• Report writer

This on-line, interactive medical records system for long-term-care facilities allows medical records personnel to enter all patient data, both personal and medical, and to generate up-dated physician's orders, medication records, and treatment records. The system accommodates either problem or group charting. Features include the creation of specialized orders, including dietary; pharmaceutical and lab work; and physical, speech, respiratory, occupational, and activity therapies. The system can interface with LT/CARE, the accounts receivable system, to eliminate costly duplication of data entry. Extensive documentation is included.

**Price:** \$3000

**Contact:** David R. Iles, National Sales Manager  
(219) 753-0411

ROEING CORP.

Two Chase Park  
Logansport, IN 46947

### **COMPU-TRIEVE — Report Writer and Data Manager**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Medical • Report writer

This on-line, interactive system allows reports to be written from existing files. Even unsophisticated users can set up their own files, based on their selected criteria. The system then creates the data entry program that prompts the user for the data to be entered. User-defined criteria and reports can be printed. The report criteria can be stored and reports rewritten or additional criteria set up.

**Price:** \$1000

**Contact:** David R. Iles, National Sales Manager  
(219) 753-0411

ROEING CORP.

Two Chase Park  
Logansport, IN 46947

## **ConTrol — Materials Management Information System**

### **PDP-11 Operating System: DSM (DSM-11)**

**Keywords:** • Inventory • Materials handling • Medical  
• Purchasing

This real-time, fully automated information system for hospitals integrates all aspects of materials handling and provides administrative lists, reports, logs, and audit trails on demand. Users can capture, process, display, and retrieve information instantly. The major modules are as follows:

- The Catalog System for purchasing and inventory allows the user to manage and update catalogs, such as pharmacy and surgical supply.
- Vendor Management keeps a file of valid vendors, allows users to track and maintain current and potential vendors on an item-by-item basis and coordinate purchase contracts, and automatically generates and tabulates bid requests.
- Purchase Requisitioning creates requisitions based on budget, inventory balances, contract/bid data, and chart of account codes on an automatic or manual basis. Other functions include recall and cancellation of requisitions, plus several levels of approval based on authority codes and/or encumbrances.
- Purchasing automatically creates and prints purchase orders based on new or previously entered data. The module checks vendor status; provides descriptions, price, and unit data; and updates delivery information and inventory.
- Delivery allows the user to schedule, monitor, expedite, and confirm deliveries in a real-time mode. The extensive audit trail can be interfaced to the spending controls in Budget Management.
- Receiving updates incoming-item data, monitors inventory maintenance, interacts with "material on order," updates files on outstanding delivery information, and provides various reports.
- Order Entry allows material ordered to be entered directly at the terminal, providing a flow-through process for future issuance, back ordering, or purchase requisitioning. The module validates catalog numbers, checks balances, and maintains a data base of unfilled orders and "material on order" for follow-up action. All patient charge data is updated as well.
- Inventory Management contains the data bases for all inventory transactions. The module's Distribution Analysis Data Base determines whether purchases are required. As the core of the ConTrol system, this module keeps a perpetual inventory in real time, automatically manages back ordering, and generates purchase requisitions based on minimum balances, bids, and contracts.

Those programs are highly interactive. Common entries need be entered only once to update all aspects of the system.

The ConTrol Materials Management System is available in a choice of turnkey or economical time-shared packages with full interface capabilities.



**Price:** \$55,000

**Contact:** Matthew Ehrlich

(516) 764-5953 or (800) 645-5959

ADVANCED MEDICAL SYSTEMS

36 Maple Avenue

Rockville Centre, NY 11570

## **D16 and ROTA Programs for GAMMA-11**

**PDP-11 Operating System:** RT-11

**Keywords:** • Diagnostics • Graphics • Medical

Memory required: 12KW.

The D16 program enables the user to display part of dynamic study in D16 mode with absolute or relative scaling on the VSV-01 video display and to rapidly see the effect of different parameters — absolute/relative scaling, LT, UT, black/white versus color, UM switch — on the display. D16 works with 2-or 4-bit maps in VSV-01. Dynamic single or multigroup data and display parameters are shown simultaneously. For further documentation, see file D16.DOC.

The ROTA program allows the user to rotate or mirror-image all or parts of a dynamic study file. The program, written for use in T1-201 emission tomography of the heart with the SPETS-11 software, enables the user to reconstruct slices parallel to and perpendicular to the long axis of the heart individually for each patient. The angle can be given as a parameter or interactively. The program can also be used to determine angles on the VSV-01 video display. Dynamic single or multigroup studies with  $64 \times 64w$  or  $64 \times 64b$  matrices are handled. For further documentation, see file ROTA.DOC.

Some useful subroutines are also distributed together with D16 and ROTA. DECUS number 11-587.

Restrictions: PRE.SAV, an undocumented utility originating from Uppsala, Sweden, appears to work but is not absolutely necessary for compiling ROTA; see ROTA.DOC.

Note: Complete sources are included except for the VAVPKG/VSVLIB package, which originates from Erasmus University, Rotterdam, Holland, and has been distributed by GAMMA-11 Software Centre, Cologne. The utility PRE.SAV originating from Uppsala is also without sources.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **DataCare**

**PDP-11 Operating System:** RSTS

**Keywords:** • Dental • Medical • Pharmaceutical

This system provides a complete data processing solution for community health care and is built around the relational data base management system IMPRS, which enables inexperienced users to create

their own special reports. DataCare includes patient registration and scheduling, insurance billing, medical records, BCRR reporting, pharmacy, accounts payable, and general ledger functions.

A version of this product is available for VAX computers.

**Price:** \$15,000 – \$50,000

**Contact:** Mark A. Thomas  
(913) 782-8544  
RUF CORP.  
1533 E. Spruce  
Olathe, KS 66061

### **DFM (Dental Financial Manager)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Accounting • Dental

Developed by dentists for dentists, this program offers 999 recall codes, dual insurance billing, account aging and statements, complete patient history files, delinquent patient and insurance listings, general ledger, and more. DFM is modular and menu prompted, with on-screen help. The thrust of the program is practice development. Easy-to-learn and use tools, such as on-screen quick call, pending treatment, and patient files integrated with letter processing, enable the practice to expand immediately.

**Price:** \$2950 – \$7500

**Contact:** Don McKenzie  
(702) 882-9313  
PRO/SOFT  
1519 Continental Drive  
Carson City, NV 89701

### **Dialysis Clinic Billing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Cost accounting

This system was designed for the special accounting and billing needs of providers of kidney dialysis services. It provides an automated method of handling the voluminous information associated with dialysis, including timely, accurate billing. Patient data, including billing history, is instantly available at any terminal, and claim forms are automatically printed each month. Various on-demand and monthly reports provide concise information on clinic activity and replace many reports that were previously prepared manually.

**Price:** \$10,000 – \$16,000

**Contact:** C. M. Poel  
(704) 377-1496  
DATA CENTER MANAGEMENT, INC.  
1361 East Morehead Street  
Charlotte, NC 28204



**Dietary Scheduling System****PDP-11 Operating System:** RSTS**Keywords:** • Nutrition • Planning aids

This system provides menu planning and a patient's dietary profile (linked to a common data base used by PAIS, MRS, and RXS) and includes dietary restrictions and likes/dislikes. Used with the daily menu, this system produces patient meal cards that are coded for special diets, as well as production schedules.

This system includes a nutritional analysis module that enables dietitians to analyze any food item or an entire sample meal or cycle for nutritional components.

A version of this product is available for VAX computers.

**Price:** Available upon request**Contact:** David M. Pollack

(914) 423-3623

ADL DATA SYSTEMS, INC.

50 Stratton Street South

Yonkers, NY 10701

**DMIS (Doctors' Medical Information System)****PDP-11 Operating System:** RT-11**Keywords:** • Financial management • Medical • Report writer  
• Scheduling

DMIS, written in DIBOL, includes third-party billing, statistical information, a report generator, general ledger, accounts payable, and payroll. DMIS markets include group practices, single physicians, walk-in clinics, and community health centers.

**Price:** Available upon request**Contact:** David German

(617) 245-5974

ALLEN ASSOCIATES, INC.

968 Main Street

Wakefield, MA 01880

**Doctor Billing****PDP-11 Operating System:** CTS-300, RT-11**Keywords:** • Accounting • Billing • Medical • Statistics

This system tracks charges by patient or provider. Insurance and patient billing are featured with tracking of accounts receivable. Statistical reporting by doctor or service is automatically produced.

A version of this product is available for VAX computers.

**Price:** \$5000**Contact:** David L. Ley

(313) 855-6181

RADLEY BUSINESS COMPUTERS  
7071 Orchard Lake Road, Suite 305  
W. Bloomfield, MI 48033

### **DOSRES (Quantal Dose-Response Analysis)**

**PDP-11 Operating System:** RSX

**Keywords:** • Chemical • Medical • Pharmaceutical  
• Statistics

Memory required: 3600 words.

DOSRES computes the median dose and other dose-response curve parameters from a set of quantal observations. The sophisticated statistical developments incorporated in DOSRES permit input of individual (ungrouped) quantal observations. (Traditional probit or logit techniques demand grouping subjects and weighting data and poorly handled 0% and 100% responses.) DOSRES is particularly suited to analyzing drug studies in human subjects, for whom uniform dosing is rarely feasible.

Dose-response data are input from terminal, disk, or tape. The best-fitting logistic dose-response curve is computed by maximizing the likelihood function; as the solution is nonanalytical, estimates of the curve parameters are refined iteratively. Output comprises median dose ( $ED_{50}$ ) and standard logit-response line. The latter aids in calculating other key values such as the  $ED_{95}$  and in constructing the dose-response graph. DECUS number 11-411.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Episodic Billing System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Medical  
• Statistics

Suitable for either a stand-alone or a time-sharing environment, this interactive system handles the billing, collection, and statistical-gathering functions in hospital-based radiology and pathology. The system accumulates all charges for the patient until services are completed and manages accounts that need not be kept active.

The system offers reminder messages on statements, dunning letters, and optional automatic writeoffs of selected accounts. Also, the system displays all activity in a patient's account, accepts data on other computer media, produces media for insurance companies' computers, and searches for patients by either account number or name. The system produces a complete set of management reports, patient and insurance statements, and a detailed trail.

A version of this product is available for VAX computers.

**Price:** \$7900 - \$12,500

**Contact:** Philip Lieberman, President  
(812) 424-4974



PHILIP LIEBERMAN & ASSOCIATES, INC.  
514 S.E. First Street  
Evansville, IN 47713

## European MINC Package #2 — Lab Management

**PDP-11 Operating System:** RT-11

**Keywords:** • Computer-aided instruction  
• Data base management • Medical • Report writer

The following is a brief description of the programs:

- Lung Function Report — A medical report generator
- General-Purpose Program — To input, record, and list data in columns
- Bibliography — A package permitting storage and retrieval of bibliographical information
- BK.LAB — Order processing for biochemical clinical laboratory
- INRET — Sequential files DATA BASE allows a noncomputer expert to create and manage a data base
- Documentation — Stores and retrieves literature citations, including code, author, title, and so on
- XREF — Produces a FORTRAN cross-reference listing
- Drugs — A stock management package
- MCQ — Multiple-choice question program — a computer-assisted learning tool
- MEMPRG — Storage and retrieval program for memos, reports, and so on
- Bibliographic — 12 programs for research on bibliographies

DECUS number 11-573.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## EVOKE

**PDP-11 Operating System:** RT-11

**Keywords:** • A/D, D/A • Mapping • Medical  
• Signal processing

Memory required: 64K bytes.

This program collects volume-conducted brain stem potentials evoked by auditory stimuli. Responses are collected over a 30-msec time frame — 5 msec pre- and 25 msec poststimulus. Sampling is at 10,000 samples/sec. Summed activity is displayed on line, using an oscilloscope, and off line, on a VT105. Four runs are maintained active on the system and can be manipulated, using routines for add, subtract, point smooth, cross-correlate, and z-score transform. Hard-copy plotting is contained in a subroutine passed the data array. Sampling rate, A/D-D/A address, and numbers of samples/run are easily modifiable in the MACRO routine. DECUS number 11-552.

Note: Developed on MINC-11; applicable to other PDP-11 systems.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **GALEN — Complete Medical Office System**

**PDP-11 Operating System:** Independent, RT-11\*

**Keywords:** • Billing • Biology • Data base management  
• Word processing

Memory required: 256KB.

This complete medical office system offers word processing, general ledger, a complete data base manager, and all insurance billing functions. The system, written in ANSI Level II COBOL, automatically generates insurance appeals and uses a proprietary, fully movable cursor similar to a mouse.

**Price:** \$3000

**Contact:** James S. Miller, M.D.  
(714) 925-2681

CULLODEN, INC.  
41591 Florida Avenue  
Hemet, CA 92344

### **GLS (General Ledger System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Cost accounting • Financial analysis  
• General ledger • Statistics

Designed for health care facilities, GLS features automatic extract and post routines from A/R, A/P, and payroll in either detailed or summary form. GLS is based on the Uniform Chart of Accounts with a crosswalk to a facility's own numbering system (if different). GLS includes a budget system based on G/L account numbers, with monthly and year-to-date comparison of expenses to budget allocation, an automatic posting of recurring entries, and an automatic reversal of statement entries.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David M. Pollack  
(914) 423-3623

ADL DATA SYSTEMS, INC.  
50 Stratton Street South  
Yonkers, NY 10701

### **Group Purchasing System**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Accounts receivable • Inventory • Medical  
• Purchasing

This on-line purchasing service for ordering supplies consists of purchasing, contract analysis, and billing modules. The purchasing section generates an order with a computer- or hospital-assigned



purchase order number. The purchasing module selects the vendor with the best buy for each product ordered. The contract analysis module permits the purchasing service to create files of contracts for related items with prenegotiated prices for a specified time period. Reports from that module enable the purchasing service to determine the amount due from vendors, based on dollar volume of purchasing orders. Product listings provide documents for purchasing agent referral.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David H. Shor, Director, Sales and Marketing  
(215) 691-3616

PENTAMATION ENTERPRISES, INC.

One Bethlehem Plaza

Bethlehem, PA 18018

### **HBS Nursing Home Management Information System**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Accounting • Medical

This user-friendly system provides patient billing and accounting, payroll, accounts payable, general ledger, patient personal funds accounting, medical records, and fixed-asset accounting.

**Price:** \$20,000 - \$150,000

**Contact:** V. R. Tabaac

(215) 364-4136

HBS MEDICAL MANAGEMENT INC.

1300 Industrial Highway

Southampton, PA 18966

### **HDC + (Hospital Data Communication)**

**PDP-11 Operating System:** Independent

**Keywords:** • Electronic mail • Information management  
• Scheduling

HDC + uses visual-display terminals, terminal printers, and special-purpose minicomputers to improve communication among hospital admitting, nursing, and ancillary departments. HDC + automates many of the manual activities involved in patient admissions, outpatient registrations, order entry, charge collection, and results reporting. A split screen data entry technique enables the operator to visually check each order as it is entered. Menu selection and help procedures simplify order preparation, collection of admitting information, and other data communication tasks.

**Price:** Available upon request

**Contact:** Ford R. Phillips

(314) 232-9861

MCDONNELL DOUGLAS HEALTH SYSTEMS  
Health Services Division  
5775 Campus Parkway  
Hazelwood, MO 63042

**HDS/II (Healthcare Data Systems)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Billing • Financial analysis • Payroll  
• Pharmaceutical

The several modular subsystems of this comprehensive interactive system for long-term health care facilities may be implemented separately or in combination: Patient Accounting and Information System (PAIS), Medical Records System (MRS), Patient Funds System (PFS), Payroll and Staffing System (PASS), Personnel Information System (PINS), Accounts Payable System (APS), and General Ledger System (GLS). Some outstanding features are third-party billing, automatic Medicare/Medicaid reconsideration, automatic crossover of coverage, all parameter-driven systems, remote-processing capabilities, and multiple-terminal support.

Installation includes on-site training and conversion and user manuals with continuous update service.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David M. Pollack, President  
(914) 423-3623

ADL DATA SYSTEMS, INC.  
50 Stratton Street South  
Yonkers, NY 10701

**Healthcare**

**PDP-11 Operating System:** Independent, RT-11

**PRO Operating System:** RT-11, TSX-11

**Keywords:** • Billing • Scheduling • Statistics

Healthcare is for those doctors who schedule visits to patients at home and who receive reimbursement from several funders. The system automatically schedules, matching requirements to capabilities, bills, and produces a series of statistical reports.

A version of this product is available for VAX computers.

**Price:** \$5000 - \$20,000

**Contact:** Nigel Harris  
(613) 829-8888

HARRIS COMPUTER SYSTEMS  
16 Credit Union Way  
Nepean, Ontario K2H 8R6 Canada



## **HIS (Hospital Information System)**

**PDP-11 Operating System:** MIIS/MAGIC

**Keywords:** • Accounting • Information management • Medical

This system includes 18 patient care and financial software applications: Admissions, Medical Records, Case Mix Management, Radiology, Pharmacy, Nursing/Workload Management, Laboratory, Microbiology, Surgical Pathology, Blood Bank, Billing/Accounts Receivable, Accounts Payable, Materials Management, General Ledger, Fixed Asset Accounting, Payroll/Personnel, Nurse Station Communications, and Resource/Appointment Scheduling. Each of those can be installed individually or in groups sharing interfaces with our other modules or with other vendors' systems. HIS features time-tested software and planned computer redundancy. Users have a choice of financing options, as well as the ability to install the system in phases and expand it.

The programs are written in MIIS (MEDITECH Interpretive Information System), a MUMPS dialect.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Meditech

(617) 329-5300

MEDITECH

MEDITECH Circle

Westwood, MA 02090

## **Home Health Management**

**PDP-11 Operating System:** RSX

**Keywords:** • Billing • Data collection • Medical  
• Scheduling

This system provides data processing support for a home health care agency. The objectives are to speed up the collection of receivables, to increase the speed and accuracy of patient visit controls, to control the number of people required to operate the business, to eliminate paperwork, and to improve access to historical records. This design philosophy of the system allows flexibility, effective operation, and ease of use. The user can manage information and expand the system as needed.

The system addresses many aspects of the home health care industry, including marketing, patient registration, personnel, scheduling, visit processing, staff productivity, and accounting.

A version of this product is available for VAX computers.

**Price:** \$6000 - \$10,000

**Contact:** Paul Balcerzak

(614) 766-0204

CORTRON CORP.  
1998 Tewksbury Road  
Columbus, OH 43221

## **Hospital Accounting and Management System**

**PDP-11 Operating System:** RT-11

**Keywords:** • Accounting • Management

Memory required: 256KB; 12MB for all application programs.

This interactive data input system performs all master file additions and changes in real time. All transactions posted to files are batch processed (on line). The transactions are edited at the time of input. Master file inquiry can be performed in real time.

The application programs, written in DIBOL-11, cover payroll, patient accounting, accounts payable, general ledger, asset depreciation, inventory, word processing, cost accounting, budget, report generator, medical records, and case management. All applications interface with the general ledger.

The word processing application requires VT100/101 terminals and a printer capable of printing lowercase letters.

Each system contains variable files used to tailor the software.

**Price:** \$25,000

**Contact:** Charles E. Trapp, Director of Marketing  
(701) 235-7799

PROFESSIONAL DATA PROCESSING, INC.  
P.O. Box 8160  
Fargo, ND 58102

## **Hospital Laboratory System**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Medical • Order processing • Quality control

This unique system streamlines ordering and reporting and provides the tools necessary for complete specimen control in every laboratory department. The system incorporates direct computer interfaces to more than 85 automated laboratory instruments with the ability for on-line collection of results, thus maximizing staff productivity and assisting in reporting results quickly. Several hospital information systems can be interfaced for the collection of patient demographic information and the communication of patients results to care units. In addition, personal computers can be interfaced so that information can be transferred to the PC and incorporated into a spreadsheet analysis.

The new results-checking capabilities include age, sex, diagnosis, and species. The laboratory selects a set of evaluation parameters to establish for a result and sequences them in logical order. Through this process of evaluation, diagnostic comments can be added to the result for reporting, inquiry, and results interpretation.



Laboratory management is supported through the use of overdue-specimen reports, summary and detail status reports, collection group summary, CAP workload, test census, employee productivity reports, and other productivity measurement tools. Other system features include reflex testing, generalized data search and retrieval, advanced quality control, and complete subsystems, including epidemiology and infection control, cytology history, anatomic pathology, and the blood bank transfusion and donor system.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bryan LeBlanc  
(214) 231-6591  
RUBICON CORP.  
1200 E. Campbell Road  
Richardson, TX 75081

### **HTP (Hemodynamic Tracking Profile)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Biology • Calculation aids • Data collection  
• Medical

Memory required: 60K.

This collection of programs, written by the Anesthesia Section of the Clinical Center at the National Institute of Health, aids in the study of certain cardiorespiratory parameters. The components of the Hemodynamic Tracking Profile are HEMO, a storage program to send up to 240 sets of data to external storage; CALLBK, a retrieval program to list all data sets stored by HEMO; CRASH, a recovery program to be used should HEMO crash; and CALC1, a modified version of HEMO that calculates derived variables but does not store them externally, as HEMO does. DECUS number 11-455.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Independent Laboratory System**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Data collection • Medical • Order processing

This product, written in DSM, offers on-line entry of order requisition data to include client-specific test requesting and patient demographic information. The orders are converted from a client structure to the individual components so that the order can be exploded and work distributed to the performing medical departments. Worklists are produced, containing the appropriate quality control and standard specimens, as well as the patient specimens in a format specific to the bench technician. The system accepts test results manually and automatically and subjects each result to a real-time review based on patient demographic characteristics that include species, age, and sex versus a set of master file tables.

An extensive comment and message capability allows the appropriate medical technologist or pathologist interpretation to be recorded. The patient results are then reassembled on an order basis for reporting to the ordering physician. The reporting system offers client-specific tailoring and a number of transmission options. An autodial feature allows the laboratory system to connect to terminals at client locations or remote laboratory sites for automated report production.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bryan LeBlanc  
(214) 231-6591  
RUBICON CORP.  
1200 E. Campbell Road  
Richardson, TX 75081

### **InteRx™**

**PDP-11 Operating System:** DSM (DSM-11)

**PRO Operating System:** MUMPS®

**Keywords:** • Accounts receivable • Inventory  
• Pharmaceutical • Retail

This retail pharmacy system consists of optional inventory, accounts receivable, and institutional modules. The InteRx system is for use in community pharmacies, nursing homes, and hospitals.

Work is performed interactively at a CRT, using a full-screen format; the user specifies the function — for example, “entry of an Rx” — and the CRT screen is filled with prompts at half intensity and entries for each prompt at full intensity. Patient-profile information appears in the same fashion, enabling the user to distinguish between header and patient information.

InteRx is extremely flexible; since many parts of the system are parameter driven, InteRx can be tailored to each user. InteRx eliminates the need to fill out third-party claim forms, makes rejected claims easy to correct, eliminates patient-profile ledger cards, accurately prices prescriptions, and provides useful management reports.

InteRx provides:

- On-line patient profiles, including allergy and diagnosis, patient lookup by name or number, and simple procedures for changing and adding profile information
- Automatic refills by entering prescription number, automatic production of prescription labels and receipts, directions entered from the doctor's prescription in Latin and printed in English or Spanish, and precautionary warnings as part of the prescription label
- Automatic third-party billing and resubmission of rejected claims, drug price updates and inquiry, special pricing, and provision for compounded prescriptions



- Automatic checks for allowable number of refills, refill too soon, nonrefillable drugs, less than effective medications, drugs not covered (by plan), and interaction warnings
- Dispensing and receipts reports, operating statistics, and patient lists and profiles

The Institutional InteRx module includes on-line patient admission functions, bed census reports, on-line creation and modification of physician orders, production of physician orders and medication sheets, and full and modified unit dose, drug utilization, and history reports.

MUMPS® is a registered trademark of Massachusetts General Hospital.

A version of this product is available for VAX computers.

**Price:** \$7500 – \$12,500

**Contact:** Edward Muller, Director of Marketing — Pharmacy  
(201) 256-7633

INTERACTIVE SYSTEMS AND MANAGEMENT CORP.  
1500 Cardinal Drive  
Little Falls, NJ 07424

### intRlab

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Asynchronous communication • Data collection  
• Medical • Order processing

The intRlab System is an advanced communication network that links multiple testing sites, thereby integrating laboratory services for maximum efficiency. This network of facilities can consist of multiple hospital laboratories using the Rubicon Hospital Laboratory Information System or any combination of those hospital and reference laboratories.

The intRlab System provides automatic and electronic routing of tests requested to another location on the network for actual performance. Thus, testing for selected procedures can be consolidated, minimizing duplication of equipment and resources.

The intRlab provides you with management tools to monitor the transfer of specimens from one location to another. Those tools include status reports for the laboratory transferring the specimens and pending list of specimens scheduled to be received by the alternative testing location.

The system's design is both expandable and flexible. Remote testing facilities can be added to the system, which can also distribute the workload to multiple computers, upgrade to more powerful computers without your reinvesting the software, and migrate on the complete line of PDP-11 or VAX/VMS hardware.

In addition, other networking capabilities are supported through the Ethernet and X.25 protocols. The Ethernet protocol is an industry-accepted standard for local area networking (LAN) communications.

The X.25 protocol is requested for data communications over common carrier lines. The protocol enables your system to communicate over packet-switched data networks.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Bryan LeBlanc

(214) 231-6591

RUBICON CORP.

1200 E. Campbell Road

Richardson, TX 75081

### **JSI/MIS (John Snow, Inc./Medical Information System)**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Billing • Information management • Insurance  
• Medical

**Memory required:** 128KB.

JSI/MIS, developed jointly with CDD and written in C, is a comprehensive modular medical software package that includes billing, insurance-claim preparation, practice analysis, appointment scheduling, and medical records functions. This easy-to-use clinical data processing system provides cost-effective medical business management and convenient storage of patient information. JSI/MIS software combines the latest information-processing technology with JSI's experience in the requirements of community health centers, group practices, family-planning organizations, and health maintenance organizations to offer an advanced and complete medical system.

The system features a module to meet the reporting requirements of federally funded clinics and health centers. That module maintains encounter and user data for BCRR reports and census tract data for patient origin studies (MUA). The module also automatically posts sliding-fee-scale adjustments based on patient income and family size. Transaction information can be accessed by program and department, thus simplifying reporting and analysis. JSI/MIS with the federal reporting module is ideal for community health centers, Title X family-planning centers, certified rural health clinics, and other health centers that require expanded reporting functions.

A version of this product is available for VAX computers.

**Price:** \$12,000 - \$40,000

**Contact:** Daniel D. Moriarty

(617) 482-9485

JSI

210 Lincoln Street

Boston, MA 02111



**LabCom +<sup>®</sup>****PDP-11 Operating System:** Independent**Keywords:** • Data base management • Instrumentation

LabCom +, a stand-alone clinical-laboratory management system, can interface to various hospital information systems. LabCom + allows the user to interface to personal computers as well as to instruments. LabCom + is a complete turnkey single-vendor product consisting of hardware/hardware maintenance and software/software support. Installation and postinstallation support are offered, as well as varied consulting, training, and client support services.

**Price:** Available upon request**Contact:** Ford R. Phillips

(314) 232-9861

MCDONNELL DOUGLAS HEALTH SYSTEMS

Health Services Division

5775 Campus Parkway

Hazelwood, MO 63042

**Laboratory Data Management System****PDP-11 Operating System:** DSM (DSM-11)**Keywords:** • Information management • Medical  
• Order processing

This product is written in ANSI standard MUMPS and runs on DIGITAL micros, minis, and VAXs. This table-driven product aids the user in performing all laboratory functions — from order entry to reporting — and includes quality control, results entry and calculation, statistical plotting, management reporting, worklist production, and autodial reporting.

A version of this product is available for VAX computers.

**Price:** \$14,490 – \$84,150**Contact:** Richard R. Brink

(214) 422-1022

ANTRIM CORP.

101 E. Park Boulevard, Suite 855

Plano, TX 75074

**Laboratory Module: Leadership Series<sup>™</sup>****PDP-11 Operating System:** DSM (DSM-11)**Keywords:** • Billing • Biology • Data collection

The Laboratory module gives hospital laboratories control of both daily lab test processing and internal and external reporting. The on-line system records ordered tests, results, and comments; produces worksheets and labels; and can assign specimen numbers. The system includes numerous report capabilities and automatic client or physician billing. The quality control and preventive maintenance features monitor and regulate the quality control tests and preventive maintenance tasks in a hospital laboratory. Automated laboratory equipment

can be interfaced to the system, as well as Bacteriology, Blood Bank, and other pertinent systems in Pentamation's Leadership Series. The Laboratory application is also available as a stand-alone system.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David H. Shor, Director, Sales and Marketing  
(215) 691-3616

PENTAMATION ENTERPRISES, INC.

One Bethlehem Plaza

Bethlehem, PA 18018

## LABPlus (Laboratory Information System)

**PDP-11 Operating System:** RSX

**Keywords:** • Billing • Medical • Query facilities • Statistics

LABPlus is a third-generation, flexible, on-line system that allows constant exchange of information with other departments in the hospital: nursing units, outpatient areas, emergency department, admitting, business office, and so on. A state-of-the-art system, LABPlus significantly impacts and benefits all hospital departments, the medical staff, and the clinical and anatomical laboratory sections through elimination of unnecessary paperwork; fast response time; user-formatted chart layouts and video screens; expandability to incorporate future hospital and laboratory requirements; reduction of personnel time in the laboratory and interrelated departments; full compliance with JCAH, CAP, and other accrediting agency standards, requirements, and guidelines; and complete interface capabilities with the hospital's main computer system for ADT, test requisitioning, inquiry of patient data, billing, STAT reporting, and so on.

**Price:** \$125,000 - \$200,000

**Contact:** William J. Brady  
(617) 839-5383

HIAS, INC.

296 Providence Road

S. Grafton, MA 01560

## Laundry Module: Leadership Series™

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Billing • Inventory • Production control  
• Property management

The Laundry application provides a central hospital service with complete control of all laundry activities. The system maintains an account of laundry material received by and delivered to each hospital or hospital section. This system automatically charges for the quantity of processed and replaced items on a biweekly basis. Each hospital area can receive clean laundry based on a schedule determined by a delivery category: standard, soil count, and weight after wash. A daily production report and a daily delivery report are generated. Other biweekly



and monthly reports are available for overall management of the laundry service.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David H. Shor, Director, Sales and Marketing  
(215) 691-3616

PENTAMATION ENTERPRISES, INC.  
One Bethlehem Plaza  
Bethlehem, PA 18018

## **Leadership Series™ Hospital Information System**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Financial management • Information management  
• Medical

This on-line, interactive, fully integrated hospital information system features patient management, financial management, clinical support, and decision support systems. The systems are flexible enough to meet unique health care management needs without programmer modifications, even allowing the use of personal computers/workstations to down-load data from the main CPU. This series allows straightforward interfaces to other applications and easy integration of future product releases and enhancements. Its modular design allows a complete, single-vendor approach to all financial and clinical processing needs. On-line help and electronic documentation allow users to learn while they work. Full on-site system, technical, and computer engineering support is available.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David H. Shor, Director, Sales and Marketing  
(215) 691-3616

PENTAMATION ENTERPRISES, INC.  
One Bethlehem Plaza  
Bethlehem, PA 18018

## **LT/AMS — Financial Management for Long-Term-Care Facilities**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts payable • General ledger • Fixed assets

This menu-driven set of programs covers four areas of financial management for long-term-care facilities. The Accounts Payable module helps control expenditures and do purchase analysis. Specific features include flexible selection of pay vouchers, automatic check printing, and time-saving bank reconciliation. The General Ledger module automatically interfaces with several other LT/ systems to allow you to make automatic comparisons with the current budget or that of the previous year. The Financial Reporting module automatically interfaces with Payables, Receivables, and Fixed Assets. The Fixed Asset

Reporting module produces accurate monthly depreciation entries to interface with the General Ledger to provide acquisition reports, property tax analyses, and disposal reports by time periods.

**Price:** \$2500/module

**Contact:** David R. Iles, National Sales Manager  
(219) 753-0411

ROEING CORP.  
Two Chase Park  
Logansport, IN 46947

### **LT/CARE — Accounts Receivable for Long-Term-Care Facilities**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Audit • Medical

This menu-driven set of programs can handle all the charges, receipts, and agings in a long-term-care environment. The on-line, interactive system has an excellent audit trail. The system can generate private pay statements, UB-82 claims, and paperless Medicare/Medicaid billings. The system includes batch controls on all data; fast, effective data entry on either CRT or hard-copy terminals; straightforward interfacing to Roeing's LT/CHART medical records, to general ledger, and to other applications; and patient personal-fund programs. LT/CARE features easy customizing and extensive user documentation.

**Price:** \$10,000

**Contact:** David R. Iles, National Sales Manager  
(219) 753-0411

ROEING CORP.  
Two Chase Park  
Logansport, IN 46947

### **LT/PRX — Payroll and Personnel Management for Long-Term-Care Facilities**

**PDP-11 Operating System:** RSTS

**Keywords:** • Payroll • Personnel

This program produces user-defined reports that accumulate costs by nursing units and combine those centers into certification levels for detailed analysis by patient day. Significant control of labor costs is a feature of the system. Personnel management is easier for the user, with individually defined reports that aid planning for evaluations and benefit eligibility. LT/PRX automatically interfaces with other financial management systems from the LT/ family of software from Roeing Corp.

**Price:** \$2500

**Contact:** David R. Iles, National Sales Manager  
(219) 753-0411



ROEING CORP.  
Two Chase Park  
Logansport, IN 46947

### **MDS (Medical Data System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Medical

This on-line, interactive system processes fast, effective data entry of all charges, receipts, and claims. The system includes patient insurance processing (HCFA-1500) and microfiche of paid history. The statement is customized to the customer's requirements.

The present set of programs, written in DIBOL, allow up to 19 terminals for data entry and use the RMS file-handling services. Customization of the software is available.

A version of this product is available for VAX computers.

**Price:** \$10,000 - \$30,000

**Contact:** Leon G. Hatt  
(816) 836-4050

HATT DATA SERVICE, INC.  
2528 S. M-291 Highway  
Independence, MO 64057

### **MDX**

**PDP-11 Operating System:** XENIX™

**Keywords:** • Accounting • Medical • Report writer  
• Scheduling

MDX is a comprehensive medical office management software system written in C for UNIX\* computers. Designed for medical offices of all sizes and specialties, MDX includes four main software modules:

- Financial Accounting provides for patient billing and insurance claim forms and maintains patient records and financial management reports.
- Appointment Scheduling manages the physician's calendar and produces route slips and day sheets.
- Medical History allows a physician to create medical record screens for storing patient medical data.
- The user-controlled Report Writer creates custom reports for treatment recall, research, and financial analysis.

MDX is table driven, with complete menu selection for all modules and an extensive help facility.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$4000 - \$12,000

**Contact:** Paul Lundell  
(414) 444-9900

CLINICAL DATA DESIGN  
4718 W. Lisbon Avenue  
Milwaukee, WI 53208

### **Medical Billing and Accounts Receivable**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Accounts receivable • Billing • Sales analysis

This product is written in ANSI standard MUMPS and runs on DIGITAL micros, minis, and VAXs. This table-driven product accommodates the needs of laboratory billing, as well as radiology, cardiology, and individual practitioners. The system provides a variety of fee schedules, special prices, and automatic price changes. Multiple insurance carriers may be billed, using claims, tapes, or electronic transmissions, as well as direct patient and client billing. The system also generates a complete set of financial and sales analysis reports.

A version of this product is available for VAX computers.

**Price:** \$15,697 - \$73,658

**Contact:** Richard R. Brink  
(214) 422-1022

ANTRIM CORP.  
101 E. Park Boulevard, Suite 855  
Plano, TX 75074

### **Medical Laboratory System**

**PDP-11 Operating System:** Micro/RSTS

**Keywords:** • Accounts receivable • Billing • Data conversion  
• Medical

This medical recording and accounting system is designed for any medical laboratory that must keep medical log books and invoices for private, welfare, and third-party insurers. The system, written in DIBOL 83, records all test results by patient and physician and keeps a separate log book of positive tests. You can print up to four kinds of invoices for private patients, welfare patients, Blue Cross, and other common insurers. The system provides complete receivable accounting for both providers and patients and allows you to print unpaid patient statements at any time.

**Price:** \$3875

**Contact:** Margaret Hodder  
(617) 484-1709

CORPORATE CONSULTING CO.  
556 Trapelo Road  
Belmont, MA 02178

### **Medical Office Manager**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Accounts receivable • Dental • Medical



This software, written in DIBOL, was designed to increase the cash flow of the professional office. This program, in a remote batch entry mode from a microcomputer or an on-line data entry for service bureaus, produces:

- Year-to-date detail produced on microfiche or hard copy on a weekly basis. This simulates on line for remote batch clients without the expense. This report contains every one that has entered the practice for the year.
- Account summary, which holds name, account number, phone number, last charge date amount, last payment date and amount, and type, account balance, billing status, delinquent status, batch listing, and aging of receivables.
- Alphabetical listing for anyone ever in practice.
- Statements.
- Delinquent documents for tracking activity on accounts.
- Doctors' reports and business analysis.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Royal Eccles, Vice President  
(801) 394-0171

MANAGEMENT SCIENCES  
905 24th Street  
Ogden, UT 84401

## Medical Records System

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Information management • Medical

This computerized medical records system is functionally similar to COSTAR but incorporates several enhancements and simplifications. The system can integrate the medical records software with appointments scheduling, billing, and accounting software. The highly interactive, easy-to-learn, on-line help system is available as an off-the-shelf package or with customization. Clinical and other vocabularies are stored in dictionaries that can be defined and maintained without programmer assistance. A report generator is included in the system, and unlimited user-defined reports can be created.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Denis R. Pombriant  
(617) 964-7880

THE MUMPS COLLABORATIVE, INC.  
797 Washington Street, Suite 1  
Newton, MA 02160

## **Medication/Treatment Sheet System for Nursing Homes**

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Medical • Pharmaceutical

This program maintains all medications, treatments, diagnoses, diets, activities, and census information for each patient of the nursing home facility. The program prints medication sheets, treatment sheets, physicians' orders, census summaries, and a wide array of analytical reports that can be used for studies showing correlations in various fields (such as the number of a certain diagnosis occurring in a specific age group).

The software can retain history or purge a set of transactions for a certain time period. Thus, the program gives the operator the chance to recreate any activity for as far into history as the file has been purged.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1500 - \$4500

**Contact:** Larry Triplett, President

(614) 826-7678

TRIAD DATA PROCESSING

36 E. Main Street

New Concord, OH 43762

## **MediCom®**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Dental • Medical • Scheduling

• Word processing

MediCom is a medical management system that can help run a physician's office efficiently and accurately. MediCom keeps track of all medical codes (ICDA, CPT), insurance, payments, recalls, statements, G/L, family billing, and guarantor reference accounts. Patient history in a data base and open-item and balance-forward billing make this a state-of-the-art package. MediCom is written in RM/COBOL for flexibility.

A version of this product is available for VAX computers.

**Price:** \$1000 - \$2500

**Contact:** Don Walkup

(312) 931-1400

ICS COMPUTERS, INC.

37 Fountain Square Plaza

Elgin, IL 60120

## **MEDICOMS (Medical Office Receivables Management System)**

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Accounts receivable • Billing

• Data base management • Medical



This total receivables management package for medical offices can satisfy the requirements of a single-doctor private practice, a multidoctor practice, or a general medical clinic. The package supports the generation of patient statements and third-party insurance claim forms preparation. The system manages receivables, tracking productivity and aging open accounts and providing flags messages to aid collection. Included with this function is a delinquent-collections subsystem. Secondary benefits of the system provide for medical analytical abilities, using CPT and ICD-9 standard codes for diagnosis and procedures. The menu-driven, operator-friendly package has been time tested and has been installed in user environments for more than seven years.

**Price:** \$7500 - \$12,500

**Contact:** J. Elliott Haney, Jr.

(502) 926-4781

INFO-MED, INC.

3520 New Hartford Road, P.O. Box 1862

Owensboro, KY 42301

## MEDISYS

**PDP-11 Operating System:** Micro/RSX, RSX, RT-11

**PRO Operating System:** RT-11

**Keywords:** • Accounts receivable • Billing • Insurance  
• Medical

MEDISYS is a complete in-office medical management, billing, insurance, and collections management system. Developed in doctors' offices over a 10-year period, MEDISYS allows practices with 1 to 15 doctors to keep as many as 50,000 patient accounts, with all diagnosis and service details on a single 10MB disk for as long as five years. MEDISYS stores comprehensive patient data, offers rapid posting, has reception office inquiry modes, provides total management reports, automatically produces bills and insurance forms, has absolute collections control, and even tests itself to guarantee data integrity and ensure security. MEDISYS accommodates all 21 of the major medical specialties. The software allows the system to be run by staff members with no prior computer experience. Simple office procedure-related instructions appear on the screen for each step of data input.

MEDISYS runs on A-to-Z, which offers a myriad of other applications, such as word processing, spreadsheet, general ledger, appointments, payroll, and so on.

MEDISYS is available to DIGITAL OEMs and ADDs at a 40% reseller discount. MEDISYS is ideally suited for resellers who want to supply systems to the medical marketplace. The interactive "SYSGEN" offers nearly perfect custom matching — not only to each of the 21 major medical specialties and dentistry but also to the idiosyncracies of individual offices.

**Price:** \$6000 - \$10,000

**Contact:** Mike Mason  
(602) 993-4771

MEDISYS

15650 N. Black Canyon Highway, Suite 205  
Phoenix, AZ 85023

### **MEDREP — Systems for Preparation of Medicaid/Medicare Reports**

**PDP-11 Operating System:** RSTS

**Keywords:** • Report writer • Spreadsheets

This system allows the user to easily compile the extensive Medicare and Medicaid cost allocation reports required for health care facilities. Each user-friendly module creates a 50% time savings over compiling the reports manually. Data entry is not required, due to interface with the general ledger and payroll programs. Spreadsheet capabilities and interim reports allow financial projections throughout the year. MEDREP can be used by long-term-care facilities, multifacility corporations, small hospitals, and accounting firms for health care facilities.

**Price:** \$850/module

**Contact:** David R. Iles, National Sales Manager  
(219) 753-0411

ROEING CORP.

Two Chase Park

Logansport, IN 46947

### **MESTAMED**

**PDP-11 Operating System:** CTS-300, RSTS

**Keywords:** • Accounting • Billing • Information management  
• Insurance

MESTAMED is a computerized accounting and management information system designed for durable medical equipment and respiratory dealers.

**Price:** \$29,500 - \$160,000

**Contact:** Pete McConnell  
(412) 823-7440

MCS, INC.

400 Penn Center Boulevard

Pittsburgh, PA 15235

### **MINI-PHARM (Minicomputer Hospital Pharmacy Package)**

**PDP-11 Operating System:** Micro/RSX, RSX

**Keywords:** • Inventory • Order processing • Pharmaceutical  
• Statistics

This hospital pharmacy drug distribution and control system, written in FORTRAN, provides order entry, profiles, IV support, ADT, MARs,



drug interactions, pharmacokinetics, financial management, inventory, financial modeling, work statistics, interdepartmental accounting, word processing, an electronic mail and reminder system, and a complete management system. Options include an interface to hospital mainframes.

**Price:** \$15,000 – \$60,000

**Contact:** Ross Rupp  
(305) 774-5277

INTERACTIVE BUSINESS SYSTEMS, INC.  
600 Westlake Circle  
Longwood, FL 32750

### **MPMS (Medical Practice Management System)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Accounts receivable • Billing • Medical

Memory required: 40K.

This easy-to-use, versatile, in-office medical management system can satisfy the needs of a single-doctor practice, multidoctor practice, or even a multipractice office. MPMS features:

- Patient data records keeping (53 data fields of demographic, billing, accounting, and history information, including 3 insurance policies, 4 diagnoses, 1 user-definable field, and 41 user-accessible fields)
- Transaction processing (with daily reports and accounts receivable reviews)
- Billing and receipts (with flexible control of bill printing, billing messages, and billing statuses)
- Insurance claims management (including automatic filing of insurance claims)
- Hospital in-patient tracking for any number of doctors treating any number of patients in any number of hospitals or other places of service)

The system offers comprehensive management reporting, including six revenue reports and patient data reporting in three formats that have extensive selection criteria. MPMS provides a complete interface to a set of office automation tools from Saturn Systems, including word and list processing, electronic spreadsheet, business graphics, and data base management.

The system, written in DBL, is available to DIGITAL OEMs, other VARs, and end users.

**Price:** \$5000 – \$10,000

**Contact:** Mitchell R. Sowards  
(512) 692-0953

DATA PROCESSING SERVICES, INC.

8746 Wurzbach, Suite 203  
San Antonio, TX 78240

### **MRS (Medical Records System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Data collection • Medical  
• Statistics

This program is fully integrated with PAIS (Patient Accounting and Information System) and operates from a common data base. MRS accepts up to nine diagnoses in ICD-9 coding, maintains medical and psychological profiles on patients, and evaluates the level of care. A patient-assessment module based on RVG II groupings is provided.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David M. Pollack

(914) 423-3623

ADL DATA SYSTEMS, INC.

50 Stratton Street South

Yonkers, NY 10701

### **Multilab — Comprehensive Clinical Laboratory Information System**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Information management • Instrumentation  
• Medical

This flexible real-time laboratory management system interfaces directly with automated laboratory instruments. Multilab's data acquisition program speeds and simplifies the processing of vital test information in work-listed batches.

A special modeling function lets users create programs to adapt Multilab to the operating parameters of individual laboratories. That function also allows the user to add or modify aspects of the packaged system to keep pace with changes in laboratory procedures.

Multilab is an interactive system. The operator communicates with the system through a simple question-and-answer dialog using standard laboratory abbreviations. No knowledge of computer programming is required. Built-in self-teaching functions allow the user to obtain clarification.

Operator-controlled functions include display of pertinent system information for monitoring or troubleshooting. Routine problems are spotted and quickly corrected, by means of a built-in comprehensive list of common error diagnoses and corrective procedures. The billing portion of the Multilab program determines which tests are billable and automatically updates statistics, produces a report, and creates a magnetic tape copy for storage.

A mailbox function allows authorized persons to "broadcast" messages to laboratory personnel. New or updated mailbox messages are displayed for review when technicians log onto the system.



Patient-oriented features include the ability to track patient admissions, transfers, and discharges; to provide detailed administrative reports; to output customized forms; to generate collection lists, such as patient names, floor listings, tests required, and so on; and to prepare daily, interim, and cumulative patient reports for physician, hospital, or internal laboratory use.

Laboratory-oriented features include the ability to track specimens from log-in to check-off; to automatically print out Aliquot and back-up labels for specimen containers; to create customized work lists for specimen control, record keeping, and batch entry of result data; to provide work list status reports; to access test results for Delta Check verification; to produce a variety of standard and nonlaboratory management reports, such as master specimen lists, abnormal and pending results, and quality control statistics; and to maintain daily, monthly, and yearly workload tallies.

The system permits archive storage of test results and discharge reports on magnetic tapes and captures data in duplicate on a back-up tape.

**Price:** \$65,000

**Contact:** Matthew Ehrlich

(516) 764-5953 or (800) 645-5959

ADVANCED MEDICAL SYSTEMS

36 Maple Avenue

Rockville Centre, NY 11570

## Multipharm

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Inventory • Medical • Pharmaceutical

This pharmacy system helps the pharmacy department distribute drugs more efficiently by keeping up-to-the-minute records of patient admissions, discharges, and transfers. The system screens each order at entry for drug/allergy, drug/drug, drug/food interactions, and I.V. incompatibility. The system also keeps precise track of orders for inventory control.

The system improves communication between the pharmacy and nursing stations by providing common access to patient information. The system also issues a medication discharge summary report, which the pharmacy can use as its dispensing document.

**Price:** \$55,000

**Contact:** Matthew Ehrlich

(516) 764-5953 or (800) 645-5959

ADVANCED MEDICAL SYSTEMS

36 Maple Avenue

Rockville Centre, NY 11570

### **NHIS (Nursing Home Information System)**

**PDP-11 Operating System:** Independent, TSX-PLUS™

**Keywords:** • Accounting • General ledger • Payroll

Memory required: 256K.

This menu-driven accounting system, which includes payroll, accounts payable, accounts receivable, general ledger, and patient trust, is designed to maximize productivity and enhance the profitability of nursing homes and ACLFs, with medical records, electronic claim submission, and utilization review modules to be added. Backup support is provided by PSI's team of technical and accounting consultants. Current regulations and financial requirements are incorporated into all NHIS programs, which are continually being updated to meet changing regulations and guidelines.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$6000 - \$11,000

**Contact:** Roy O.D. Johnstone  
(904) 375-7624

PROFESSIONAL SYSTEMS INTEGRATION

P.O. Box 14545

Gainesville, FL 32604

### **PAIS (Patient Accounting and Information System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Data collection  
• Statistics

This program provides an accounts receivable system for health care facilities and includes admissions, discharges, and transfers; cash receipts; ancillary charges; private and third-party billing by magnetic tape or hard copy; and patient statistics.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David M. Pollack  
(914) 423-3623

ADL DATA SYSTEMS, INC.

50 Stratton Street South

Yonkers, NY 10701

### **Paramedics Billing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Insurance  
• Medical

Paramedics Billing is an easy-to-use, interactive, comprehensive, and complete method for charging and billing for paramedics' or ambulance runs by private firms or government agencies. Included are integrated insurance filing, accounts receivables, statistics, aging, and so on.



A version of this product is available for VAX computers.

**Price:** \$5000 - \$8000

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.  
1010 S. Weinbach Avenue  
Evansville, IN 47714-2994

### **PAS-11/D (Professional Accounting Series-11/Dental)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Dental • Insurance • Medical

PAS-11/D offers complete office automation for the dentist. The system can be used by the single practitioner, group practices, small and large clinics, and emergency clinics. The key features include complete accounts receivable and accounts payable functions; direct, paperless transmission of insurance claim data to Medicare/Medicaid and Blue Cross/Blue Shield by telephone; automatic third-party insurance billing with multiple insurance companies for each patient, using preprinted insurance forms; management and productivity reports; scheduling; instant, on-screen access to patient records; a data base report generator; an integrated general ledger accounting system; on-line retention of detail of accounting data; payroll computation, with payroll check writing; text processing and production of chart labels and mailing labels; a telephone modem for remote access to the system; an easy, reliable method for backing up patient data; and compatibility with a vast library of application software.

Various reports are provided: procedure profiles, general ledger, patient information, insurance, billing, accounts receivable, appointment scheduling, financial reporting, accounts payable, and payroll.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Richard J. Barton II  
(512) 690-9062

TEXAS PROCESSOR INC.  
Ashford Oaks, 8122 Datapoint Drive, Suite 910  
San Antonio, TX 78229

### **PAS-11/M (Professional Accounting Series-11/Medical)**

**PDP-11 Operating System:** RSTS, RT-11

**Keywords:** • Accounting • Insurance • Medical

Memory required: 512KB.

The PAS-11/M series, written in FORTRAN-77, provides complete accounts receivable and accounts payable functions; direct, paperless transmission of insurance claim data to Medicare/Medicaid and Blue Cross/Blue Shield by telephone; automatic third-party insurance billing with multiple insurance companies for each patient, using preprinted insurance forms; management and productivity reports;

scheduling; instant, on-screen access to patient records; a data base report generator; an integrated general ledger accounting system; on-line retention of detail of accounting data; payroll computation, with payroll check writing; text processing and production of chart labels and mailing labels; a telephone modem for remote access to the system; an easy, reliable method for backing up patient data; and compatibility with a vast library of application software.

Statement forms are produced automatically, and aging, delinquent-accounts, practice-analysis, and management reports are provided.

A version of this product is available for VAX computers.

**Price:** \$5000 — \$30,000

**Contact:** Richard J. Barton II  
(512) 690-9062

TEXAS PROCESSOR INC.

Ashford Oaks, 8122 Datapoint Drive, Suite 910  
San Antonio, TX 78229

### **PASS (Payroll and Staffing System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Employment • Payroll • Statistics

Developed for health care facilities, PASS features fringe benefit accruals, overtime reports, full-time equivalency (FTE) calculations, and customized reporting for union-based welfare and pension funds. This system can be integrated with a computer-based timekeeping and attendance system, which is available separately. PASS is fully integrated with PINS (Personnel Information System), which includes a wide variety of reports and data collection required by various federal and state agencies.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David M. Pollack  
(914) 423-3623

ADL DATA SYSTEMS, INC.  
50 Stratton Street South  
Yonkers, NY 10701

### **Pathology Billing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Medical  
• Statistics

Pathology Billing provides the statistics, billings, and reporting for laboratories that bill to individual patients or to doctor or hospital groups. The system components are interactive, user friendly, and complete — for an in-house or a time-share system.

A version of this product is available for VAX computers.



**Price:** \$20,000 – \$24,000

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.  
1010 S. Weinbach Avenue  
Evansville, IN 47714-2994

### **Patient Management System**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Accounts receivable • Billing • Medical  
• Report writer

This flexible, on-line, comprehensive ambulatory care system was developed for physician's practices, clinics, and hospitals. The system supports registration, accounts receivable/billing (including statements and insurance forms), scheduling, medical data, report generation, and electronic mail.

A version of this product is available for VAX computers.

**Price:** \$30,000

**Contact:** Alan Gold, President  
(301) 258-9212

GLOBAL HEALTH SYSTEMS, INC.  
1701 Research Boulevard  
Rockville, MD 20850

### **Payables**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Accounts payable

This product is written in ANSI standard MUMPS and runs on DIGITAL micros, minis, and VAXs. This table-driven product creates and produces payables checks and provides for the complete control of payables. This system allows you to take discounts when they are most advantageous, as well as to distribute your payables to various general ledger accounts.

A version of this product is available for VAX computers.

**Price:** \$2415 – \$16,200

**Contact:** Richard R. Brink  
(214) 422-1022

ANTRIM CORP.  
101 E. Park Boulevard, Suite 855  
Plano, TX 75074

### **Payroll**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Payroll

This product is written in ANSI standard MUMPS and runs on DIGITAL micros, minis, and VAXs. This table-driven product provides the necessary processing of payroll for salaried and hourly employees;

handles multiple corporations, credit union deductions, and employee loans; and automatically creates tax deposit checks and other required filing forms and lists.

A version of this product is available for VAX computers.

**Price:** \$2415 - \$16,200

**Contact:** Richard R. Brink

(214) 422-1022

ANTRIM CORP.

101 E. Park Boulevard, Suite 855

Plano, TX 75074

### **PFS (Patient Funds System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Financial analysis

Fully integrated with PAIS (Patient Accounting and Information System), PFS tracks patient allowances under Medicaid for long-term care facilities required to maintain separate accounts for patients' own funds. PFS is automatically keyed off from Medicaid accounts receivable.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David M. Pollack

(914) 423-3623

ADL DATA SYSTEMS, INC.

50 Stratton Street South

Yonkers, NY 10701

### **Pharmacy**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Billing • Medical • Pharmaceutical

This system collects and verifies customer information at the point of sale; performs and records all Rx information, functions, and printing; and provides activity reports to help manage your business and growth. Reports include Rx activity, patient yearly statements for tax or insurance needs, and more.

The system provides features for patient registration, prescription processing, a doctor's file, a price file, drug warning labels, and sig and phrase translation. Rx inventory management, generic and brand-name cross-references, third-party claims, and accounts receivable are included as well.

This system is suited to nursing homes. Administrative functions, such as nursing home billing with patient detail, are covered. RPH functions, such as sorting batch labels by home, patient, location, or drug, are provided too.

A version of this product is available for VAX computers.



**Price:** \$7500

**Contact:** Jon Springer, President  
(617) 828-1529

**WORLD-WIDE COMPUTER RESOURCES**  
127 Tolman Street  
Canton, MA 02021

**Pharmacy Module: Leadership Series™**

**PDP-11 Operating System:** DSM (DSM-11)

**Keywords:** • Billing • Data base management  
• Pharmaceutical • Statistics

The Pharmacy Module permits the pharmacist to control management of medications, documents the patient medication history for the physician, and facilitates more efficient administration of medication by the nurse. Pharmacy also produces a daily medication profile for each patient. Upon request by the pharmacist, the computer prints labels for the medication orders. The system provides monthly drug usage statistics, based on doses of medications by drug, nursing unit, physician, and total hospital. In addition, Pharmacy automatically generates charges for regularly scheduled patient medications and allows for additional charges or credits as necessary. Numerous reports are available throughout the system. The Pharmacy application is also available as a stand-alone system.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** David H. Shor, Director, Sales and Marketing  
(215) 691-3616

**PENTAMATION ENTERPRISES, INC.**  
One Bethlehem Plaza  
Bethlehem, PA 18018

**Physician Systems**

**PDP-11 Operating System:** M (MUMPS)

**Keywords:** • Accounting • Billing • Forecasting  
• Scheduling

IDS software applications include Billing and Accounts Receivable, Patient Scheduling, Paperless Collection, General Ledger, Accounts Payable, and Financial Forecasting. IDS has serviced the medical community since 1969, providing services to physician group practices, hospital clinics, and university-affiliated-practice plans. Innovations introduced by IDS include open-item posting, profile monitoring, automatic claims tracing, and user-defined management reports. All IDS systems are real time and integrated and are offered on both a time-sharing and a stand-alone basis.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Robert Galin

(617) 566-6800

INTERPRETIVE DATA SYSTEMS, INC.

882 Commonwealth Avenue

Boston, MA 02215

### **Practice Management System**

**PDP-11 Operating System:** RSX

**Keywords:** • Accounting • Billing • Information management  
• Medical

Practice Management System is a complete billing, accounting, claims preparation, and medical management system for physicians. This flexible, easy-to-use system provides everything a doctor needs to automate patient financial histories, accounts receivables, and cross-reference information.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$4500

**Contact:** Paul Balcerzak

(614) 766-0204

CORTRON CORP.

1998 Tewksbury Road

Columbus, OH 43221

### **Practice Management System**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Dental • Insurance • Medical

This comprehensive accounting software package is designed to meet the varied needs of many medical and dental practices. With easy-to-read screens and menu-driven prompting, the system provides instantaneous access and update of both patient records and billing information and automatically prints forms, invoices, and reports. System applications include billing, collecting, and insurance reporting; managing accounts receivable; organizing visitation history information; and storing practice management information and sorting by patient, diagnosis, procedure, and type of service.

The system works within the data processing capabilities of a mini-computer but requires no technical expertise to operate. Complete training programs and literature are provided.

**Price:** \$3000 - \$5000

**Contact:** E. Jackson Smith

(301) 296-9032

SMITH, ABBOTT, AND COMPANY, INC.

300 E. Joppa Road

Baltimore, MD 21204



**PRN-1 Pharmacy Package****PDP-11 Operating System:** RSTS**Keywords:** • Billing • Inventory • Pharmaceutical

PRN-1, designed by a registered pharmacist and written to handle all aspects of pharmacy procedure, can be customized to meet specific needs and modified to meet each state's individual requirements. PRN-1 can fill and refill prescriptions, create labels, warn the pharmacist of drug interactions, show generic substitutions, and maintain patient profiles. The system contains a 3500-item drug file to which the pharmacist can add drugs as needed. The system can control both drug and nondrug inventories. All third-party billing is provided by PRN-1 and customer statements are printed for private charge customers.

Reports generated by the system include a daily transaction report, monthly drug-usage report, Schedule II reporting on controlled drugs, and individual patient prescription purchases year to date.

The optional Nursing Home module manages the dispensing of prescriptions to each home. That module uses a batch refill program to speed the process of refilling a large number of prescriptions at a time. The optional Medicare module provides for the rental of Medicare durable goods. Other options, such as accounts payable, general ledger, payroll, and word processing, are also available with PRN-1.

A version of this product is available for VAX computers.

**Price:** \$6000 - \$12,000**Contact:** Stephanie Miller

(717) 569-5733

EASTERN SYSTEMS MANAGEMENT, INC.

1585 Commerce Drive

Lancaster, PA 17601

**PRO-IV Medical Management****PDP-11 Operating System:** Micro/RSTS, Micro/RXS, RSTS, RSX**PRO Operating System:** P/OS**Keywords:** • Accounting • List processing • Medical

This program can help a medical practice multiply the effectiveness of administrators and physicians and streamline insurance claim processing. Written in PRO-IV, the powerful and easy-to-use fourth-generation language, this application is transportable and modifiable. Modules include Practice Management for daily analysis of an entire practice and each physician's activity; Patient Histories for diagnoses, background, profiles, allergies, prescriptions, exams, therapy records, procedures, and account guarantor information; Physician Records, providing initial reports of injury and the activity of individual physicians and entire practice to ensure accurate distribution of revenues; Insurance Claim Processing; Correspondence for customized system-generated payment reminders, recall notices, and so on; and Accounts Receivable, providing bills, account statements, insurance claims, and management reports.

A version of this product is available for VAX computers.

**Price:** \$3500 - \$75,000

**Contact:** Craig Thompson  
(714) 951-8171

APPLICATIONS SYSTEMS CORP.

23181 Verdugo Drive, Suite 101

Laguna Hills, CA 92653

### **Programs for Analyzing Stress-Strain Data from Lung Parenchyma and Artery Tests**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data collection • Medical

Memory required: 12KB.

The programs Lung and Artery fit exponential-type strain energy functions to experimentally acquired stress-strain data from soft-tissue tests. One program evaluates data gathered from tests on lung parenchyma; the other program performs similar computations for artery data. Both programs are based on a modification of the Levenberg-Marquardt algorithm for the minimization of a nonlinear sum of squares. Easy portability of the programs to other computers is ensured. DECUS number 11-548.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **RADIO-OSCAR**

**PDP-11 Operating System:** RSTS, RSX, RT-11, TSX-PLUS™

**Keywords:** • Chemical • Inventory • Nuclear • Security

This on-line system for the control of radioactive chemical stores gives radiochemical laboratory managers an accurate record of current stock, together with a detailed usage history. The system is simple to use and operates by a series of question-and-answer sequences using a visual display unit and keyboard. Information is retrieved from data files instantaneously for inspection on the VDU screen or may be printed on a line printer. Because the total activity held in the stores is known at all times, legal requirements can be accurately monitored.

Individual records are stored in the data base for each isotope, incorporating a reference code, description, and half-life or decay constant. Associated with each isotope are all the individual stock records for which the data base records a reference number and additional reference data, a description, units of measure, quantity on hand, specific activity at a given date, purity information, and computed activity derived from the quantity on hand. Also held for each stock item are up to 60 dated and initialed stock movements showing the quantity and activity issued.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.



**Price:** £3000 – £6000

**Contact:** R. A. Stock  
(0734) 699777

D. M. ENGLAND & PARTNERS LTD.  
Lytham Court, Lytham Road  
Woodley, Reading  
Berkshire RG5 3PQ England

### **Radiology Accounts Receivable Management System**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Accounts receivable • Billing • Insurance  
• Medical

The system, designed for radiology by Radiology Business Management Consultants, performs all billing and insurance-processing functions and provides a multitude of user flexibility. One account and one statement are produced for each patient, thereby eliminating duplication of accounts and unnecessary postage and handling. Up to 26 locations of service may be handled. The system facilitates Medicare, Medicaid, Blue Shield, Workmen's Compensation, and general insurance filing and follow-up under program control and refiling by demand. Medicare and Blue Shield insurance are filed computer to computer over telephone lines in selected states.

The system also provides a collection system that ranges from in-house status to the printing of collection notices to bad debting performed automatically on selected accounts.

Many management reports may be produced by location of service. Also available are Reading Physician Statistical Reports, Volume Reports, and an Ad Hoc Report capability on all charge, payment, and adjustment transaction information.

**Price:** \$12,000 – \$18,500

**Contact:** Jan E. Powell or Roy Maloy, D.P.A.  
(904) 878-6568

MEDICAL, EDUCATIONAL AND GOVERNMENTAL  
APPLIED SYSTEMS (MEGAS) CORP.  
2536 Capital Medical Boulevard  
Tallahassee, FL 32308

### **Radiology Billing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Billing • Insurance • Medical • Statistics

This on-line, interactive system performs billing functions and collects statistics. Suited for either stand-alone operation or a time-sharing environment, the system is particularly useful when charges for a patient are accumulated until the patient is discharged (from minutes to an indefinite period of time after start). A statement for services is

prepared under an account number that changes if that person enters the system again for additional services.

The programs occupy 2600 blocks. Each account number in the patient master file requires two blocks, and each test in the test master file occupies one-half block.

The Radiology Billing system accepts data from other computers; is menu/table driven; alphabetizes master file lists and reports; handles Medicare, Medicaid, Blue Cross, or standard insurance forms; and produces comprehensive trails, active patient lookup, complete bill handling, and statistical reporting.

A version of this product is available for VAX computers.

**Price:** \$9000 - \$15,000

**Contact:** Nathan I. Lieberman  
(812) 479-6951

EVANSVILLE DATA PROCESSING CORP.  
1010 S. Weinbach Avenue  
Evansville, IN 47714-2994

### **RBS (Radiology Billing System)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Billing • Information management • Medical

RBS is written in BASIC and has a capacity of 6000 active patient accounts and 120,000 transactions. RBS is suitable for a small group of radiologists who use independent billing in their hospital or office practices. RBS has the following capabilities:

- Archiving, to provide inactive accounts in hard copy, based on the date of the last transaction and balance.
- Searching by patient or guarantor's name or by insurance or social security number. The operator controls the length of the search string. Direct access is by account number. The maximum search time is about 3 seconds.
- Transaction, by automatic reference number, recovers originally filed source documents, data, type of process, referring doctor, reason for exam, location of service, interpreting radiologist, and so forth.
- Billing for any routine from single accounts to segments of the alphabet, insurance type, transaction date parameters, and minimum balance. The billing segment is modularized to accommodate new form types.
- On-demand report generation, including aged accounts receivable, credit balance list, number of times each exam is done and the dollar volume, number and dollar volume for each referring doctor, number of exams interpreted and dollar volume for each radiologist, and a delinquent list.

**Price:** \$2000

**Contact:** J. R. Monnahan, M.D., Manager  
(801) 373-6564



MARI KEL  
P.O. Box 531  
Provo, UT 84603

### **RxCom**

**PDP-11 Operating System:** Independent

**Keywords:** • Data base management • Information management  
• Inventory • Pharmaceutical

This complete pharmacy management system provides medication dispensing, administration, billing, clinical review information, inventory control, and so on. Drug-to-drug, drug-to-food, drug-to-allergy, drug-to-OTC, and drug-to-disease interactions are flagged to the ingredient level. RxCom is a complete turnkey single-vendor product consisting of hardware/hardware support and software/software support. Installation and postinstallation support are offered. Varied consulting, training, and client services support can be provided on request.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Ford R. Phillips  
(314) 232-9861

MCDONNELL DOUGLAS HEALTH SYSTEMS  
Health Services Division  
5775 Campus Parkway  
Hazelwood, MO 63042

### **RXS (Pharmacy System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounts receivable • Billing • Medical  
• Pharmaceutical

Designed to support an in-house pharmacy for health care facilities, RXS generates doctors' orders, treatment plans, and a medication administration record (MEDEX/MAR). RXS updates a patient profile from a common data base used by PAIS and MRS, contains drug interaction tables and allergy/contraindications, prints labels with precautionary warnings, and updates prices automatically.

A full system is available separately for retail pharmacies and contains all the above, as well as additional record-keeping and billing features and a full accounts receivable module, with retail customers kept separately from nursing home receivables. Optional modules for A/P, payroll, and G/L are also available.

A version of this product is available for VAX computers.

**Price:** \$15,000

**Contact:** David M. Pollack  
(914) 423-3623

ADL DATA SYSTEMS, INC.  
50 Stratton Street South  
Yonkers, NY 10701

## **SALGLA (Salivary Gland Analysis)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Graphics • Medical • Printing

This package allows one to analyze a dynamic study of the salivary glands by smoothing the curves, subtracting background, and making a compact tabular and semigraphical hard copy on the LA120 or equivalent console terminal. The program is very modular. The plotting subroutine for an LA36 terminal should be easy to modify.

Up to eight curves can be analyzed simultaneously, and up to four curve pairs are plotted on one page. Some useful subroutines are also distributed with the package. For further documentation, see file SALGLA.DOC. DECUS number 11-565.

Note: VSVLIB.OBJ and D16.SAV (sources distributed separately by DECUS, see DECUS number 11-587).

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **SLEEP: Programs of Analysis of Sleep-Wakefulness Data**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data collection • Graphics • Medical

Memory required: 16KW.

This series of programs analyzes data acquired from monitoring sleep-wakefulness cycles. The programs are written for cat sleep, although they could be readily modified for human sleep. A control program prompts the user for the desired option, including input of data, listing of raw data, summary tables, creation of hypnogram files for plotting, and creation of MINTAB/SAS acceptable data files. DECUS number 11-553.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## **Spectrum**

**PDP-11 Operating System:** RT-11

**Keywords:** • Accounting • Inventory • Optics  
• Order processing

This powerful optical laboratory management system provides Rx order entry/invoicing and stock order entry/invoicing with automatic posting to accounts receivable, consequent Rx work ticket preparation, itemized statement preparation, aged receivables preparation, and sales analysis. A lab owner can also purchase General Ledger, Accounts Payable, or Payroll as combined features of a total system that can be operated by present employees, requires no previous computer experience, and is easy to use. SGB maintains a customer service organization for daily telephone consultation.

This system also maintains multiple Rx price lists, produces daily Rx and stock invoice registers, and requires no monthly licensing fee. If



Spectrum features are required, Sprint is upward compatible to Spectrum with the additional monthly licensing fee.

The lab work ticket preparation tells the lab people what tools to use and how much prism to grind (based on lens-on-center blocking) and details finishing information, such as edger setting and pattern location.

**Price:** \$29,958 – \$250,000

**Contact:** Carl R. Grady, Vice President, Marketing  
(608) 831-2262

SYSTEMS BY GRABER

2415 Parview Road, P.O. Box 328  
Middleton, WI 53562

## Sprint

**PDP-11 Operating System:** Independent, RT-11

**Keywords:** • Accounting • Inventory • Order processing

This modular building-block turnkey applications package, comprised of a subset of Spectrum programs, enables laboratory owners to quickly implement an order entry and accounts receivable system, with little data base building. Sprint features prescription (Rx) and stock-order entry; aged accounts receivable; itemized customer statements; Rx work ticket, invoice, and mailing label preparation; stock invoice preparation; multiple Rx price lists; daily Rx and stock invoice registers; sales analysis by customer, salesperson, and territory; automated printing of the Rx order book; and management reports, such as a daily gross profit overview and others.

The order entry process begins by entering Rx's and stock orders into Sprint, which prompts the operator for appropriate Rx information. Orders are entered while others are printed; the lab calculations necessary for grinding a lens to fit a frame are computed, and the printout is a combined work ticket, delay notice, invoice, and mailing label. Pricing is furnished when the job goes to the lab.

Additionally, Sprint reduces or eliminates lab billing errors, reduces spoilage by using more finished lens blanks or smaller blanks, and by the lab's having fewer cutout problems. Sprint also provides managerial reports to help the owner or manager operate more profitably. The system grows with the business by expansion to the Spectrum system, which entails data base building and payment of a monthly Spectrum software fee.

**Price:** \$29,918 – \$119,000

**Contact:** Carl R. Grady  
(608) 831-2262

SYSTEMS BY GRABER

2415 Parview Road, P.O. Box 328  
Middleton, WI 53562

### **Sunquest Laboratory System**

**PDP-11 Operating System:** DSM (DSM-11), M (MUMPS)

**Keywords:** • Biology • Instrumentation • Medical

Proven in more than 40 laboratories nationwide, this complete information system provides full functionality to laboratory departments. In addition to the complete system, which integrates all laboratory departments, subsystems for microbiology, blood bank, and anatomic pathology/cytology are available as separate modules operating on a stand-alone basis, with the potential for future integration into the complete system.

The system operates on a broad range of DIGITAL hardware; such flexibility permits the system to be cost effective in hospitals ranging from 100 beds to more than 1000 beds and in both large and small commercial laboratories.

The Sunquest System supports multiple hospital sites, reference laboratory services, remote access from physicians' offices, and personal computer interfaces for extended operations.

A version of this product is available for VAX computers.

**Price:** \$100,000 - \$700,000

**Contact:** Al DeStefano  
(602) 885-9056

SUNQUEST INFORMATION SYSTEMS

8835 East Speedway, Suite F  
Tucson, AZ 85710

### **Temporary Nursing Personnel Agency System**

**PDP-11 Operating System:** Micro/RSTS

**Keywords:** • Billing • Employment • Personnel  
• Scheduling

This system, written in DIBOL 83, is a self-contained, menu-driven invoicing, payroll, and planning system for specialized temporary personnel agents providing their clients with nursing care at all skill levels and at all shift and pay differentials. The invoicing and payroll modules generate essential accounting information for complete payroll and billing management. The planning system maintains a record of nursing availability at all skill levels.

The system prints employee paychecks and customer invoices. Receivable accounting is available, and customer statements can be printed at any time. The system provides separate monthly billing, payroll, and cash-receipts summaries.

After the first month, Corporate Consulting Co. offers four levels of software support, costing from \$150 to \$375 a month. Customizing is available from the manufacturer, and service-contract customers receive a 25% discount on modifications.



**Price:** \$3875

**Contact:** Margaret Hodder  
(617) 484-1709

CORPORATE CONSULTING CO.  
556 Trapelo Road  
Belmont, MA 02178

### **Third-Party Claim Payment and Billing System**

**PDP-11 Operating System:** Independent, TSX-PLUS™

**Keywords:** • Billing • Insurance • List processing

This on-line, menu-driven system is designed as a low-cost, highly efficient alternative for third-party administrators (TPAs) and companies that administer their own self-funded health plans. Written in COBOL, the package allows you to produce checks, billings, mailing labels, hospital I.D. cards, reinsurance, and management reports. All reports are generated through the use of run-time menus, and all screens are built from a security file.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$10,000

**Contact:** W. W. Leroy, Jr.  
(404) 231-1484

THE SOFTWARE HOUSE, INC.  
P.O. Box 52661  
Atlanta, GA 30355

### **TMR® (The Medical Record)**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Accounting • Data base management • Medical  
• Scheduling

The comprehensive TMR medical record system includes management, financial, and medical functions. The dictionary-driven system does not require additional programming. The dictionary also makes TMR fit any medical or dental setting—from solo practitioners to clinics to hospitals. Data can be viewed in time-oriented, problem-oriented, and encounter-oriented formats. The system supports on-line graphs and protocols and can be used as a chartless system. A wide variety of user reports can be produced. The appointments portion can provide multiple time slots, clinic profiles, practitioner profiles, overbooks, scan forward or backward, and holding file. Installations include a 2-person OB/GYN practice, a 72-person multiple practice, and a 60-bed cancer hospital.

A version of this product is available for VAX computers.

**Price:** \$25,000 – \$120,000

**Contact:** Lois Funderburk  
(919) 493-6969

DATABASE, INC.  
P.O. Box 3054  
Durham, NC 27705

## **VET-11**

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**PRO Operating System:** RT-11

**Keywords:** • Billing • Inventory • Medical • Scheduling

This veterinarian inventory and billing system has complete patient record and inventory management information. The system schedules future visits, treatments, and services, with owner notification reports of upcoming visits, and has a billing process, with statements or invoices printed on request. VET-11 provides sales analysis reports, complete history reports that allow quick terminal inquiry and display, and an automatic interface to Accounts Receivable for accurate and time-saving business practices. Software, training, and continued support are provided.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$4500 - \$8500

**Contact:** Rob Whitlock  
(405) 236-4351

DIGITAL SOLUTIONS

P.O. Box 25987

Oklahoma City, OK 73125

## **Vet System/2000**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Information management • Medical  
• Word processing

This package provides patient history similar to Visi Record Card, automatic generation of shot reminders, client history, drug disbursements, sales analysis, accounts receivable, billing, accounts payable, general ledger, payroll, and word and list processing.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$20,000

**Contact:** Frank Zimmer, President  
(201) 231-9400

UNITRONIX CORP.

50 County Line Road

Somerville, NJ 08876

## **VMIS (Visiting Nurse Home Health Management Information System)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Accounting • Financial management  
• Report writer • Spreadsheets



VMIS, written in DIBOL, includes clinical and statistical reporting, third-party billing, a report generator, financial data, general ledger, accounts payable, and payroll. VMIS markets include home health agencies and the Visiting Nurses' Association.

**Price:** Available upon request

**Contact:** David German  
(617) 245-5974

ALLEN ASSOCIATES, INC.

968 Main Street

Wakefield, MA 01880

### **VSV-01 Device Driver for RSX-11M**

**PDP-11 Operating System:** RSX

**Keywords:** • Device drivers/handlers • Graphics • Medical  
• Nuclear

This driver allows RSX-11M tasks full control of the DIGITAL VSV-01 Nuclear Medicine Image Display. Character display, vector graphics on a  $256 \times 256$  display grid, image display, loading of color translation tables, interactive joystick input (requires an NCV-11), and cross-hair control are supported. The driver may be incorporated without a SYSGEN into any RSX-11M system with loadable driver support. Four bit maps must be present for  $256 \times 256$  graphics; two bit maps allow  $256 \times 128$  graphics. DECUS number 11-470.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Wayne Medical System**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • Information management • Medical  
• Office systems • Scheduling

This total patient registration/billing/accounting/practice management system for medical offices supports multiple physicians in multiple specialties. In the Greater New York area, the system has been validated for electronic claims submission for Medicare and Medicaid claims. Multiple insurance carriers, private patient billing, assignment acceptance, worker's compensation claims, and aged receivables are all supported. Optional modules support a single-entry office checkbook/ledger, an office inventory system, and a detailed procedure log for procedure-oriented specialties. Patient recall can be structured by up to 9999 criteria.

**Price:** \$4000 - \$12,000

**Contact:** Dr. Peter K. Wayne  
(914) 476-0851

WAYNE MEDICAL SYSTEMS

50 Berkeley Avenue

Yonkers, NY 10705





# Information Management



Black Star Publishing Company/Victor De Palma

## **A-to-Z Data Inquiry**

**PDP-11 Operating System:** Micro/RSX

**Keywords:** • A-to-Z • Data base management  
• Development tools • Office systems

A-to-Z Data Inquiry is designed to create impromptu reports and terminal queries from existing data files. Through the use of English-like commands, a novice can design the desired output without the need for programming.

A-to-Z Data Inquiry uses dictionaries to describe data files. Logical field names assigned to each field are used with A-to-Z Data Inquiry commands to extract the desired data.

A-to-Z Data Inquiry also provides the user with a simplified dictionary build and data entry facility. That feature enables the user to describe the dictionary and to add, delete, or modify data in the user's file designated by that dictionary.

A-to-Z Data Inquiry can create a procedure file of sequenced commands to produce the desired output. The procedure file can be stored and recalled at will for repetitive report requests.

This A-to-Z component is integrated with the other A-to-Z components. For example, a file extracted using A-to-Z Data Inquiry can be graphed using A-to-Z Business Graphics. Data can be saved in a report file and included in an A-to-Z Word Processing document.

A-to-Z Integrated System is prerequisite. This product does not support VT100-series terminals.

Refer to SPD #18.17.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **ADR/DATA™**

**PRO Operating System:** P/OS

**Keywords:** • Calculation aids • Data base management  
• Report writer

This menu-driven data management system performs the storage, reporting, manipulation, maintenance of data, and necessary tasks of recordkeeping and information management. The software is used by large and small organizations for any application that manages information, such as budgeting, job costing and tracking, production analysis, wage/benefit analysis, general accounting, personnel reporting, and manpower studies.

Repetitive operations can be stored and reused, thereby saving valuable time in updating, analyzing, and reporting data. Complete support of the Professional's help key provides on-line assistance wherever needed. Questions and other screen messages guide the user through the entire program.



For the Professional 350, the P/OS hard disk operating system is required. For the Professional 325, the P/OS diskette operating system is prerequisite.

Refer to SPD #A2.89.xx when requesting further information on this product from your local DIGITAL sales office.

ADR/DATA™ is a trademark of Applied Data Research, Inc.

**Price:** \$600

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **ARCHON: ADMS (Association Data Management System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • List processing  
• Recruiting • Word processing

ARCHON: ADMS keeps accurate records on membership management, meetings and conventions subscriptions, political action, and library management. The software combines data from different departments and provides new information, allows on-site customization, and shares data with other systems, such as financial, word processing, and fund raising, to automatically produce letters to members.

Information on this product is also available from Larry L. Eastland, (703) 893-4494, QUODATA Corporation, McLean Office Centre, Suite 614, 6845 Elm Street, McLean, VA 22101.

A version of this product is available for VAX computers.

**Price:** \$8900

**Contact:** Ila Sunshine  
(203) 728-6777  
QUODATA CORP.  
266 Pearl Street  
Hartford, CT 06103

## **ARCHON: FUND-AL**

**PDP-11 Operating System:** RSTS

**Keywords:** • Fund raising • List processing • Report writer

The FUND-AL system harnesses the power of data management and combines the flexibility of letter processing to provide a unique fund-raising tool. FUND-AL supplies the personal touch necessary in cultivating an institution's or organization's supporters. It provides solutions to the problems of keeping information on donors and friends up to date and helps control valuable gift-giving processes.

This system records all important data about pledges, payments, and gifts. It also provides reports on selected prospects, produces pledge reports, and stores biographical details necessary to maintain a close relationship with valuable contributors. A generalized reporting system makes it possible to sort and select small subgroups of donors and

prospects. On-line terminals assist in keeping all financial and biographical data current. Inquiry can be made to determine the status of any individual, and an unlimited number of addresses can be stored for each prospect and donor.

A version of this product is available for VAX computers.

**Price:** \$14,300 – \$56,300

**Contact:** Ila Sunshine  
(203) 728-6777

QUODATA CORP.

266 Pearl Street  
Hartford, CT 06103

### **ARCHON: QDMS (Quodata Data Management System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management

QDMS allows instant access to vital information by anyone, at minimal cost. The QDMS tool integrates the needs of users with computer power to produce solutions that are efficient and easy to use. New insights on data manipulation and programming techniques produce a comprehensive information management system that is flexible and reliable. Features include minimum hardware cost, instant reports, a generalized report generator, multikey update capabilities, English-language dialog, video screen creation, global updating, on-line or batch control, fast sort, validity checking, a linked-file data structure, field-by-field protection, and multiple data types.

A version of this product is available for VAX computers.

**Price:** \$19,500 – \$25,000

**Contact:** Ila Sunshine  
(203) 728-6777

QUODATA CORP.

266 Pearl Street  
Hartford, CT 06103

### **ASDLOG (Automatic Searching for DIALOG Literature Search)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data collection • Software utilities

Memory required: 12KW.

ASDLOG provides access to DIALOG's on-line computer literature search service. This program can be structured to run at 1200 or 300 baud. On-line search charges can be minimized by entering or editing a search sequence/strategy prior to going on line. The search can then be sent automatically at high speed and without typographical errors, which is especially useful for long searches or ones that are to be used for several files or repeat sessions. The program can generate a break signal for transmission to the remote computer and allows for sending all control characters. The program also sends modem input directly to



a line printer or to a storage file, if desired. On-line keyboard output is buffered to simplify correction of typographical errors before transmission to DIALOG. DECUS number 11-729.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **AUTOPRO (Automatic Programming)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Data dictionary  
• Programming tools • Report writer

This data base management system allows both experienced and inexperienced users to automatically generate comprehensive systems in a simple, interactive terminal session. For complicated management information requirements, you can create a model of system requirements, including data base creation, data entry and file maintenance functions, and report generation. The professional programmer can then extend the model, using the facilities of AUTOPRO to eliminate most programming.

The Data Base Manager defines data elements, and the Screen Manager creates a screen to add, modify, and delete entries in the new data base. You can specify any number of screens for data base maintenance and inquiries. The Report Writer allows you to produce reports as needed. For word processing, you can move information from the data base into the list processing option of the word processing system.

The Data Dictionary is the foundation for AUTOPRO. All data base creation and maintenance automatically update the data dictionary, ensuring accuracy and consistency of all data resources. The Data Dictionary supports application development for the Screen Manager, Report Generation, and word processing integration. The data base creation facilities are menu driven and include help facilities.

The Data Dictionary provides a centralized resource for your data, whether applications are developed through AUTOPRO, DIBOL, COBOL, or DATATRIEVE. This centralized facility provides control of all your corporate data, giving managers, secretaries, and application development staff easy access to those resources. DIGITAL's CDD is maintained automatically.

A version of this product is available for VAX computers.

**Price:** \$1250 - \$10,000

**Contact:** E. Jackson Smith  
(301) 296-9032

SMITH, ABBOTT, AND COMPANY, INC.

300 E. Joppa Road  
Baltimore, MD 21204

## Bar-Coded Systems

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Bar coding • Inventory • Production control  
• Warehousing

Dennison Eastman's Bar-Coded Systems are designed to take advantage of the accuracy and speed attained with the use of bar-coded tags and labels. Bar-Coded Systems in use include Inventory Control and Tracking, Production and Manufacturing Control and Tracking, Log and Lumber Inventory, and Warehousing Control and Inventory. Our systems can fit your application, be modified, or be written to your specifications for your application.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** Available upon request

**Contact:** John Logan  
(503) 297-1627

DENNISON EASTMAN CORP.  
6400 S.W. Canyon Court  
Portland, OR 97221

## BASE/OE (Base Operating Environment)

**PDP-11 Operating System:** RSX

**PRO Operating System:** P/OS

**Keywords:** • Data base management • Language processors  
• Operating systems • Query facilities

This complete set of tools for managing an interactive data base environment is usually offered only through a number of selected software packages. BASE/OE is a high-performance time-sharing system supporting multiple users on local, dial-up, or dial-out communications lines.

At the heart of BASE/OE is a hierarchical file system with multikey indexes, field directories, and strict access protection. The field directories drive general-purpose query and update processors. The file structure is relationallike, and files can be linked at run time to form complex data base views. A high-level language, BASE/PL, is also available for commercial application development. Most important, the system is integrated, and the tools can be used to complement one another. For example, a production application program can be written to maintain the data base, and the query processor can be used for ad hoc reporting. Although BASE/OE is both comprehensive and powerful, simplicity is the primary design goal, which leads to a system that is truly approachable by the end user.

**Price:** \$95 - \$950/mo

**Contact:** Peter L. Wise  
(303) 892-5626

INFORMATION STRUCTURES, INC.  
910 15th Street, Suite 844  
Denver, CO 80202



## **BASIX**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Data base management • Forms management  
• Query facilities • Report writer

BASIX, a data base management system, includes menu-driven on-line inquiry and editing, forms generation and management, a report generator, self-house keeping, and security logging. BASIX supports multiple volumes with variable-length fields up to 2K bytes, variable-length records of up to 16K bytes, and files of unlimited size. BASIX is available as a stand-alone turnkey package or can be integrated with existing office or industrial automation schemes.

**Price:** £6000 – £6800

**Contact:** K. E. Archer  
0296 32023

S-COM COMPUTER SYSTEMS ENGINEERS LTD.  
Tower House, High Street  
Aylesbury, Bucks United Kingdom

## **BBASE: A Small Data Base Program**

**PDP-11 Operating System:** RSX

**PRO Operating System:** P/OS

**Keywords:** • Data base management • Menu handlers

Memory required: 18KB.

This program for storing and retrieving information of a relatively simple nature has menu-oriented facilities to manage the information. The maximum number of records is 1000; the maximum number of fields, 20. Those numbers can be increased, depending on available disk/diskette storage space. The program was written for the beginning user. DECUS number PRO-127.

A version of this product is available for VAX computers.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

## **CAIRS (Computer-Assisted Information Retrieval Systems)**

**PDP-11 Operating System:** Micro/RSX, RSTS, RSX

**Keywords:** • Data base management • Library science  
• Office systems • Text management

Memory required: 64KB.

CAIRS is a sophisticated information/data management system for any information management problem requiring the entry, storage, and retrieval of textual and numeric data. The user defines a data base by using fully prompted screens. The user can implement record structure, field prompts, field validation, indexing, thesaurus control, and field structure; full error reporting and modification opportunities are provided. Retrieval of records is by index terms created during record entry.

The user can build data dictionaries to provide complete control of index language and help during retrieval. Report generation is highly sophisticated and extremely flexible. Useful formats can be permanently stored on line. Computation facilities are provided in the report-generation systems.

The security systems within CAIRS provide comprehensive controls over system access and data management. Finally, the system is designed to be user friendly. The user needs no previous computing experience. All functions are fully prompted, and on-line help and menu functions are available.

In the United States, contact P. Jefferson, CMIG, P.O. Box 8357, Capitol Heights, Maryland 20743 (301) 735-5176; or M.S. Saboe, Info.Doc, P.O. Box 17109, International Airport, Washington, D.C. 20041 (703) 979-5363 or Telex: 903042.

A version of this product is available for VAX computers.

**Price:** £1800 - £30,000

**Contact:** Dr. Dee Marrable  
(0372) 376761 ext. 250

LEATHERHEAD FOOD RESEARCH ASSOCIATION  
Randalls Road  
Leatherhead, Surrey KT22 7RY England

### D™

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Data base management • Data collection  
• Data dictionary • Query facilities

This multiuser data base management and retrieval system features terminal orientation and real-time high performance. D can support more than one process accessing the data base simultaneously, through either the D multitasking system or the TSX operating system. As distributed, D is a complete information management system.

Files in the D data base are tightly coupled, with data relationships maintained by the data base software. All D data items and files are referred to by using logical names. D includes numerous utilities to design, structure, and maintain the data base. The command-oriented system permits users to create, update, delete, and retrieve data. D includes a library of user-callable subroutines for data base access and user-installed commands.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$15,000

**Contact:** Peter McWha, General Manager  
(613) 225-8750

LOGICAID LTD.

154 Collonnade South

Nepean, Ontario K2E 7J5 Canada



**DATA BASE: A Rudimentary Data Base Generator****PDP-11 Operating System:** RT-11**Keywords:** • Data base management • Query facilities

Memory required: 8.5KW minimum.

Grouping the routines in this series produces a rudimentary data base generator and Boolean query system. A general relational model is used for generating the data base. Particular restrictions are placed on the size of each relation in terms of the number of attributes possible within each relation and the number of occurrences of each relation that can exist. These restrictions are arbitrary and can be changed with slight alterations in the data base source. DECUS number 11-714.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**Data Base Management Package****PDP-11 Operating System:** RT-11**Keywords:** • Data base management • Report writer  
• Text management

Memory required: 20KW.

This package allows small, homogeneous data bases to be quickly set up and manipulated. The data base package provides the user with the following facilities:

- A relatively simple method of defining the structure of the records making up the data base.
- A screen-oriented data base editor for creating, editing, and deleting records. The editor supports protected and data base-managed fields. Even persons with little computer experience can use the editor.
- A report-generation package for selecting specific records and generating reports. The records to be included in the report can be sorted by any field in the record, and the report format can be easily modified.
- A FORTRAN interface for accessing records in the data base from a FORTRAN mainline program. Fields in a record can be accessed through their logical names. A FORTRAN interface is also provided to the sorting module, in case the user needs to implement a special application program. The FORTRAN interface also allows the user to access two or more data bases simultaneously.

DECUS number 11-529.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**Data Base Management Package, Binary Kit Only, for the Professional 300****PRO Operating System:** RT-11**Keywords:** • Data base management • Report writer  
• Text management

This data base package allows small, homogeneous data bases to be quickly set up and manipulated. The package provides an extremely simple method of defining the structure of the records that make up the data base; a screen-oriented data base editor that allows records to be created, edited, and deleted; a report generation package that allows specific records to be selected and reports generated; a FORTRAN interface that allows records in the data base to be readily accessed from a FORTRAN main-line program; and a menu program that allows the user to move between the application programs without knowing about their computer interfacing. DECUS number PRO-120.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Data Base Management Package, Source Only, for the Professional 300**

**PRO Operating System:** RT-11

**Keywords:** • Data base management • Report writer  
• Source code control • Text management

This package contains all the sources for the Data Base Management Package (DECUS number 11-529). DECUS number PRO-119.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Data Boss/4**

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Data base management  
• Development tools

This fourth-generation data base management system, a complete application development and productivity tool, is written in BASIC Version 2. Data Boss/4 is completely compatible with RMS and other DIGITAL-supplied utilities and greatly enhances the flexibility and ease of use of RMS.

Data base definition is accomplished interactively: Data Boss/4 requests a definition for each field, and the user responds with the field name, field, and screen attributes. An integrated set of facilities is accessed through a tailorable menu system. User-written programs can retrieve, manipulate, and update data. Those user programs can also be included in the menu system for easy user access.

Easy-to-use screen formatting plus highly sophisticated data entry and keystroke-saving techniques are an intrinsic part of Data Boss/4. VT100 compatibility also ensures high data entry productivity.

Security through menu-selection criteria and user profiles controls the use of Data Boss/4 and its host of utilities. Searches are accomplished through an easy-to-use, fill-in-the-blanks style and take advantage of Boolean logic and relational operators. Searches, such as "begins with," "contains," and "ends with," are also available.



A version of this product is available for VAX computers.

**Price:** \$10,000 - \$25,000

**Contact:** John H. Wright  
(305) 652-1710

FLORIDA COMPUTER, INC.  
99 N.W. 183rd Street, Suite 126  
North Miami, FL 33169

## DATAMAT

**PDP-11 Operating System:** Micro/RXS, RSX

**PRO Operating System:** XENIX™

**Keywords:** • Application development • Data base management  
• Decision support • File management

Memory required: 192K.

DATAMAT is a fully menu-driven applications generator. This relational data base and decision support system is available as a simple file manager that is fully compatible with a comprehensive set of additional utilities for developing turnkey organizationwide systems with customized menus. The software is available on single-user micro- and multiuser supermicrocomputers. Companion software is available for larger multiuser, minicomputer, and mainframe use. Identical user interface and data communications across these boundaries are built in. The software, written in C, is of modular design and provides an integrated set of utilities for rapid applications generation. DATAMAT also provides bar charts and scatter plots, math functions, statistics, forms generation, and text processing, with a built-in interface for other word processors.

XENIX™ is a trademark of Microsoft Corporation.

A version of this product is available for VAX computers.

**Price:** \$350 - \$9500

**Contact:** Jack Kennell  
(716) 874-2010

TRANSTIME TECHNOLOGIES CORP.  
797 Sheridan Drive  
Tonawanda, NY 14150

## DATATRIEVE-11

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • Data base management • Query facilities  
• Report writer • Text management

This interactive query, report, and data maintenance system for the less sophisticated computer user is available on the RSTS/E, RSX-11M, and RSX-11M-PLUS operating systems. DATATRIEVE-11 uses the RMS-11K record management services to access data contained in disk files of sequential, indexed, or relative organization. DATATRIEVE-11 provides facilities for selective data

retrieval, sorting, formatting, updating, and report generation without the need for programming.

Record and domain (file) definitions entered in DATATRIEVE-11 are stored in data dictionaries shared by DATATRIEVE-11 users. Data dictionaries can also be used to store frequently used sequences of commands to be recalled and processed later. Commands are provided to list the contents of the data dictionary, to delete entries, and to control access to individual entries in the data dictionary. A utility is provided to compress the data dictionary file.

DATATRIEVE-11 enables the user to define domains that cross RMS file definitions and subset record definitions. A distributed server allows remote systems connected through DECnet, transparent access to DATATRIEVE domains on the user's system.

A remote Call Interface allows the user to write programs in COBOL, BASIC, or FORTRAN to access remote DATATRIEVE domains.

DATATRIEVE-11 provides the Application Design Tool (ADT) to assist the novice in creating domain and record definitions. The ADT uses interactive dialog to guide the user through the data definition process. The ADT creates an indirect command file that is then processed to update the DATATRIEVE Data Dictionary.

Refer to SPD #12.48.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for the VAX computer.

**Price:** \$1200 - \$3000

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **DATATRIEVE-11/IAS**

**PDP-11 Operating System:** IAS

**Keywords:** • Data base management • Query facilities  
• Report writer • Text management

This interactive query, report, and data maintenance system for the less sophisticated computer user uses the RMS-11 record management services to access data contained in disk files of sequential, indexed, or relative organization. DATATRIEVE-11/IAS provides facilities for selective data retrieval, sorting, formatting, updating, and report generation without the need for programming.

Record and domain (file) definitions entered in DATATRIEVE-11/IAS are stored in data dictionaries shared by DATATRIEVE-11/IAS users. Data dictionaries can also be used to store frequently used sequences of commands to be recalled and processed later. Commands are provided to list the contents of the data dictionary, to delete entries, and to control access to individual entries in the data dictionary. A utility is provided to compress the data dictionary file.

DATATRIEVE-11/IAS enables the user to define domains that cross RMS file definitions and subset record definitions and provides the



Application Design Tool (ADT) to assist the novice in creating domain and record definitions. The ADT uses interactive dialog to guide the user through the data definition process, creating an indirect command file that is then processed to update the DATATRIEVE Data Dictionary.

The DATATRIEVE-11/IAS report writer provides easy-to-use commands to control report functions. DATATRIEVE-11/IAS uses a set of English-like commands for data retrieval, modification, and display. Prompting is automatic for both command and data entry.

DATATRIEVE-11/IAS provides a full set of arithmetic operators (addition, subtraction, multiplication, division, and negation), a set of statistical operators (total, average, maximum, minimum, and count), and automatic conversion between data types used in the FORTRAN, COBOL, DIBOL, and BASIC-PLUS-2 languages.

DATATRIEVE-11/IAS provides data encoding, decoding, and input validation capabilities through tables stored in the data dictionary. The user can also check data validity by storing validation criteria in the record definition.

Refer to SPD #12.69.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for the VAX computer.

**Price:** \$4200

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **DATMAN (BASIC Data Manipulation Package)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Calculation aids • File management  
• Query facilities • Software utilities

Memory required: 8K.

This set of RT-11/BASIC programs allows simple manipulation of numerical data stored on file. Options include stop data, print data, patch a file, merge files, copy files, selectively extract data, selectively average data, mathematical transformation of data, and file arithmetic. Options are controlled through simple question-and-answer displays. Detailed documentation is included. DECUS number 11-306.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **DBMS-11**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Compilers • Data base management  
• Language enhancers

An implementation of the 1973 and 1975 CODASYL Data Base Language Specifications, DBMS-11 provides data base facilities for PDP-11 COBOL and PDP-11 FORTRAN-77 programs and any other DIGITAL host language that supports a CALL statement or

equivalent, such as FORTRAN IV, BASIC-PLUS-2, and MACRO-11. DBMS-11 provides separate language facilities for the description and manipulation of data. That separation of data description provides for the integration of all data and data relations into a data base that is common to all application programs sharing the data.

Refer to SPD #12.66.xx when requesting further information on this product from your local DIGITAL sales office.

A version of this product is available for the VAX computer.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **Demonstrator**

**PDP-11 Operating System:** RSTS

**Keywords:** • Computer-aided instruction • Modeling/simulation  
• Presentation aids

This automated software demonstration and training utility allows the user to create screen-oriented presentations that intermix CRT displays recorded in a controlled session with text added where desired. In its simplest use, Demonstrator can easily act as a flip chart on a screen, complete with bolding, reverse video, flashing, and line drawing. In a more complex use, the user records a terminal session, then inserts explanatory text or screen controls. The resultant file is "played back" by Demonstrator software, simulating the terminal session. The user may choose to insert pause commands, which wait either for a carriage return or for a prescribed time interval. That allows for automatic walkthroughs, as in a trade show environment, or a professional, controlled demonstration. Demonstrator also includes menuing and autorepeat capabilities.

**Price:** \$1250

**Contact:** Gary Vowels

(206) 325-2200

MANUS SERVICES CORP.

1130 Rainier Avenue South

Seattle, WA 98144

## **DFRS (Donor Fund Raising System)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Fund raising • List processing

This system, developed to handle nonprofit organizations' donor information, keeps track of contributions received and sets up the information needed to reply to those contributions. Some of the capabilities include thank-you letters, appeals, multiple sets of mailing labels, pledge processing (direct mail, telethon), fund allocation reporting, a summer camp or ranch processing option, on-line data entry and inquiry based on name, and child or project sponsorship.

The system, written in DIBOL, uses the RMS file-handling service. DFRS is running on a midsize PDP-11/70 system in the Kansas City



area, handling approximately 130,000 donors and more than 250,000 contribution records.

A version of this product is available for VAX computers.

**Price:** \$10,000 – \$100,000

**Contact:** Leon G. Hatt  
(816) 836-4050

HATT DATA SERVICE, INC.

2528 S. M-291 Highway

Independence, MO 64057

## DRS

**PDP-11 Operating System:** RSX

**Keywords:** • Data base management

This sophisticated general-purpose multiuser data base management system can be operated in batch or interactive mode in dedicated and time-sharing environments. Designed to solve large, complex, and diverse data base problems, DRS is particularly well suited to text-handling applications. Data bases can be created and modified quickly and easily using the data base builder (DBB) facility. DRS provides an integrated query and update capability for selection, sorting, computation, and basic reporting of numeric, textual, and date information. Extensive recovery and security features are also provided.

A report-writer facility provides a procedural language to design reports that may require multiple sort break levels; rolling and cross-foot totals; complex computations; heading, footing, and page control; numeric editing; text string manipulation; and data translation.

A combination screen builder and applications generator enables users to develop their applications efficiently and simply. Forms are easily produced that allow the user to inquire, add, modify, delete, or browse through records and fields in the data base. A host language interface allows applications written in higher-level languages to access selected information from a data base.

Line diagrams, pie charts, and bar charts can be generated. Twenty graph formats, more than 50 colors, and more than 100 graphics device drivers are available for this utility.

A version of this product is available for VAX computers.

**Price:** \$15,000 +

**Contact:** Jim Meidel, Sales Manager  
(609) 799-4600

ADVANCED DATA MANAGEMENT

15-17 Main Street

Kingston, NJ 08528

## **EPOS (Engineering- and Project Management-Oriented Support System)**

**PDP-11 Operating System:** RSX

**Keywords:** • Development tools • Planning aids  
• Project management

EPOS, developed by GPP (Gesellschaft für Prozessrechnerprogrammierung), provides direct support for engineers, system and design experts, and managers throughout the life cycle of an industrial or software project. EPOS permits maintenance of requirements-to-design traceability and configuration control and facilitates quality assurance; the program's interactive nature permits in-depth project planning and status reporting.

EPOS lets you produce complete, up-to-date documentation, including texts, lists, and a wide variety of automatically generated graphics, at any stage of the project. EPOS has easy-to-learn verbal, graphic, and formal means for describing all phases of system development on a hierarchy of design levels. The formal representation needed for computer support is supplemented by natural language, a flexible data dictionary, and graphics descriptions that simplify communication among project personnel.

EPOS components facilitate:

- Requirements specification, with decision tables and adaptable degrees of formality for describing requirements and conceptual technical solutions
- Specification of system software and hardware design, with facilities for function, data flow, control flow, data structure, and device, event-oriented, and design-neutral methods
- Project and configuration management, with work package development, progress reports, change proposals, milestone, and critical path analysis

All the information entered by technical and management users is stored in a single, central data base, which EPOS examines with special evaluation and analysis programs for checking whether all the requirements defined are addressed in the design and then analyzing the various design levels to determine whether contradictions, ambiguities, or other design errors have occurred.

EPOS updates the entire documentation package whenever changes are made in technical or project management data. EPOS automatically generates hierarchy, data structure, data flow/control flow, Nassi-Shneiderman, module connection, and hardware block diagrams, as well as Petri nets, flow charts, bar charts, and project management graphics. Texts and cross-referenced listings are also produced automatically.

EPOS is being used on more than 90 projects, aiding in the development of such diverse projects as guidance and navigation systems, antiskid brakes, television technology, and banking systems.



A version of this product is available for VAX computers.

**Price:** \$35,000 +

**Contact:** Maja Britton  
(212) 686-3790

SPS SOFTWARE PRODUCTS & SERVICES, INC.  
14 East 38th Street, 14th Floor  
New York, NY 10016

## **EPS (Electronic Publishing System)**

**PDP-11 Operating System:** RSX

**Keywords:** • Data base management • Graphics • Media  
• Publishing

EPS is an interactive data base retrieval system that supports ASCII and NAPLPS terminals. It is deliverable in several configurations, supporting up to 96 simultaneous users, given the appropriate hardware.

Support is provided for both dedicated public terminals and dial-in service. Any terminal that provides NAPLPS decoding capability can be used to access the full-color graphics screens in the data base. ASCII users can also be accommodated, if desired, to make use of the large existing base of terminals. Inexperienced users can use menu selections to browse through the data base; experienced users can request specific screens in the data base, move between data bases, and use other advanced commands.

Complete operator support is provided to run an electronic publishing service, including detailed statistical reports on system use; remote diagnostics for public terminals, which periodically check the functioning of communication lines and the remote terminal; and the ability to configure port characteristics. Data bases can be updated, while the system is running, by using graphics "pages" that have been created on any NAPLPS page creation system. Terminals in public locations can be configured to scroll through different sets of screens whenever they are not being used interactively. Account verification can be used to prevent unauthorized use of the system, and usage statistics are maintained for each account.

An option is available to support videodisc players, allowing the combination of video images and NAPLPS graphics. That option can provide the ideal mix of infrequently changed video-quality images — in motion or still frames — with easily updated videotex graphics. Other options include support for touch screens, the ability to print coupons, a hierarchical keyword retrieval capability, and a mortgage calculation program. An interface exists to add other advanced features on a custom basis.

EPS is compatible with the Micro-GVS software, the display system handling up to 12 terminals, providing the same interface with users and the same data base structure. PRO/Videotex, a single-user version

running on the PRO 350 and 380, and GVS/VAX for the VAX computers complete this software family.

Genesys provides consulting, installation, and support services to enable customers to effectively address this new, rapidly emerging industry of graphics communication and electronic publishing.

**Price:** \$25,000 – \$80,000

**Contact:** Val Smith

(613) 226-8740

GENESYS GROUP INC.

1775 Courtwood Cres.

Ottawa, Ontario K2C 3J2 Canada

### **F\*I\*R\*E Report Writer**

**PDP-11 Operating System:** CTS-300, RT-11, TSX-PLUS™

**Keywords:** • Report writer • Telecommunications

Memory required: 256K.

This system offers the flexibility of user-defined reports. Reports can be written to draw information from existing or new files. New files can be created, or information from existing data files in other Radio Common Carrier (RCC) systems (Accounts Receivable and Inventory Management, General Ledger, Accounts Payable, Payroll, and Depreciation), can be accessed to write custom reports.

The software allows you to create and enlarge new files and to create data input screens and reports.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$2000 – \$6000

**Contact:** John M. Cohen

(404) 448-5259

COMMUNICATIONS SOFTWARE, INC.

2388 Pleasantdale Road

Atlanta, GA 30340

### **FMS-11/IAS**

**PDP-11 Operating System:** IAS

**Keywords:** • Application development • Forms management  
• Menu handlers • Query facilities

This forms-oriented video I/O management system functions as an independent software front end that logically off-loads the complexities of interactive video I/O management from the application program. FMS-11/IAS can be used as a general-purpose manager of operator I/O or as a front end in traditional source data entry applications. Possible FMS-11/IAS applications range from data base inquiry/response/update to periodic displays of the status of a real-time process or accepting control information from the operator for the process.



Call statements and high-level language interfaces are provided for applications written in FORTRAN IV/IAS-RSX, FORTRAN-77/IAS, BASIC-PLUS-2 for IAS, COBOL, and MACRO-11 assembly language. FMS-11/IAS is equally effective implementing applications with question-and-answer, menu, or fill-in-the-blank forms.

Forms defined using FMS-11/IAS can use the following features of DIGITAL's VT100 terminal: reverse video, bold, underlining, and blinking characters; 132-column lines; jump and smooth scrolling; and split and reverse screens.

FMS-11/IAS consists of the following software components:

- **FED (Form Editor)** — Used by the application developer to create and modify video forms by typing them on the screen as they are to appear to the application user
- **FUT (Form Library Utility)** — A multifunction utility program for manipulating files of FMS-11/IAS form descriptions
- **FDV (Form Driver)** — A reentrant subroutine called from application programs to control screen processing

Refer to SPD #12.32.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$1240 – \$3200

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## **FMS-11/RSTS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Application development • Forms management  
• Menu handlers • Query facilities

This forms-oriented video I/O management system for the RSTS/E operating system functions as an independent software front end that makes the complexities of interactive video I/O management transparent to the application program. FMS-11/RSTS can be used as a general-purpose manager of operator I/O or as a front end in traditional source data entry applications. FMS-11/RSTS is equally effective implementing applications with question-and-answer, menu, or fill-in-the-blank forms. Possible FMS-11/RSTS applications range from data base inquiry/response/update to computer-aided instruction and government administrative applications.

Forms defined using FMS-11/RSTS can use the following features of DIGITAL's VT100 terminal: reverse video, bold, underlined, and blinking characters; 132-column lines; jump and smooth scrolling; and split and reverse screens.

FMS-11 components are as follows:

- **FED (Form Editor)** — Used by the application developer to create and modify video forms by typing them on the screen as they are to appear to the application user
- **FUT (Form Library Utility)** — A multifunction utility program for manipulating files of FMS-11/RSTS form descriptions

## 814 Information Management

- **FDV (Form Driver)** — A reentrant subroutine called from application programs to control screen processing

Refer to SPD #13.17.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$1240

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **FORMATIX**

**PDP-11 Operating System:** RSTS, RSX

**Keywords:** • File management • Forms management  
• Menu handlers • Report writer

Memory required: 1MB.

FORMATIX enables non-data processing end users to translate paper forms into computerized forms management, selective retrieval, and reporting systems. FORMATIX can be used to build personal environments and menus, create custom files and data entry screens, access RMS files, and write reports. Easy to use and self-documenting, FORMATIX features "what you sketch is what you get," sorting on any 10 fields, selective record retrieval, multiple file updates, program chaining, multilingual capabilities, and no commands, language, compiling, linking, or debugging.

A version of this product is available for VAX computers.

**Price:** \$2900 – \$9800

**Contact:** John Ragosta  
(516) 753-0400

**ISKRA SOFTWARE INTERNATIONAL**

A Division of Iskra Electronics, Inc.

222 Sherwood Avenue

Farmingdale, NY 11735

### **Fundraiser**

**PDP-11 Operating System:** MIIS

**Keywords:** • Data base management • Fund raising  
• List processing • Word processing

This system uses visual display terminals and letter-quality printers to help automate the development office. The staff has complete control over the donor/prospect list and the processing of gifts. The system prints gift receipts and acknowledgment letters automatically, tracks restricted donations, and prints transmittal reports for the fiscal office.

Fundraiser helps run effective money-raising programs. By analyzing gift data, the system reports those appeals, phone-a-thons, or campaigns that have been most successful. The system provides on-line biographical data and unlimited processing capabilities. Fundraiser can be installed on a minicomputer or accessed through the Impact Systems computer center in Cambridge, Massachusetts.



**Price:** \$25,000

**Contact:** John S. Mills  
(617) 863-8070

IMPACT SYSTEMS, INC.  
83 Hartwell Avenue  
Lexington, MA 02173

### **GBMS (General Business Management System)**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Accounting • Inventory • Order processing  
• Purchasing

This software interactively manages order entry, inventory control, billing, purchasing, accounts receivable, accounts payable, payroll, general ledger, financial reporting, and word processing.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$6000 - \$12,000

**Contact:** Harmon Houghton, President  
(201) 348-6688

EXTENDED TECHNOLOGIES CORP.  
1023 Boulevard East  
Weehawken, NJ 07087

### **GCIS (Group Corporate Information System)**

**PDP-11 Operating System:** Micro/RSTS, RSTS

**PRO Operating System:** P/OS

**Keywords:** • Data base management • Management  
• Query facilities

GCIS simplifies the process of updating the flow of relevant information. The system enables corporate executives to have at their fingertips a comprehensive reference work on the status of their entire organization and company secretaries to satisfy legal requirements with ease.

The system is written in DATATRIEVE — DIGITAL's comprehensive data management tool developed for the RSTS/E and VMS operating systems. As such, GCIS is available for an in-house DIGITAL computer or as a turnkey solution on a PDP-11, VAX, or Professional microcomputer.

GCIS is a structure of data bases linked by the company registration number and a personal identifier for each director and senior staff member. Updating information on each of the main files — companies, posts, people, shares and loans, members, addresses, history, and auditors — automatically allows inquiries and returns to be created from the most recent data.

A version of this product is available for VAX computers.

**Price:** £6000 – £12,500

**Contact:** H. Exton-Smith  
(0272) 24181

RTZ COMPUTER SERVICES  
P.O. Box 19, 1, Redcliff Street  
Bristol BS99 7JS Great Britain

### **General-Purpose Data Base Package**

**PRO Operating System:** P/OS

**Keywords:** • Data base management

GPDB is a simple menu-driven data base package. The data base files must reside on diskette. The data fields can be character, numeric, or date. The output is sorted only by one field. DECUS number PRO-122.

**Price:** \$5 – \$225

**Contact:** DECUS (see Introduction)

### **IMPRS**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Language processors  
• Programming tools • Query facilities

This relational data base software package allows both technical and nontechnical users to establish and maintain relational data base systems, interactively generate sophisticated reports, and write fourth-generation high-level programs to support application systems. IMPRS increases programming productivity through a complete data-manipulation language. IMPRS also supports several query-language interface modules that allow nontechnical users to browse through the data base and quickly produce reports. IMPRS is fully documented and comes with a full complement of utility programs to support the data base and to provide additional flexibility to the user.

A version of this product is available for VAX computers.

**Price:** \$1000 – \$20,000

**Contact:** Elvin E. Smith or Forrest E. Weddle  
(913) 782-8544

RUF CORP.

1533 E. Spruce

Olathe, KS 66061

### **INDENT (Initial Data Entry)**

**PDP-11 Operating System:** RSX, RT-11

**Keywords:** • Data entry • Forms management

These FORTRAN programs facilitate the initial entry of data from original documents. Data fields are entered from a user-defined form, in the order of their occurrence. A record is produced with variables in any desired order, to facilitate data processing. Fields common to all records in a file produced during a session need be entered only once.



Each variable field on the record can be independently right or left justified, and the remainder of the field is filled by a blank or a character specified by the user.

INDENT runs in minimal space, allowing numerous data entry terminals to operate. For example, on a PDP-11 computer with 64K memory running RT-11, INDENT will run in the foreground while the keypad editor (KED) runs or FORTRAN program development takes place in the background. INDENT works best when large amounts of numeric data must be entered but the system editor requires the keypad for editing functions. INDENT frees the keypad for numeric input.

INDENT programs define output record format, allow format review prior to initiating a session, and accept and display data from the resulting files in their order of entry.

A version of this product is available for VAX computers.

**Price:** \$600

**Contact:** Mark Troy  
(808) 842-8641

INDENT  
P.O. Box 4383  
Honolulu, HI 96813

## INMAGIC

**PDP-11 Operating System:** Micro/RSTS, Micro/RSX, RSTS, RSX

**Keywords:** • Application development • Data base management  
• Law • Library science

INMAGIC, a powerful text indexing/information management package developed by Warner-Eddison Associates, Inc., and written in FORTRAN, has been used widely in special libraries for on-line catalogs, internal reports, and other bibliographic data bases and in law offices for litigation support and textual information retrieval. INMAGIC allows you to set up your own record designs and printing formats without any programming needed and offers rapid searching with full Boolean logic and simple, English-like commands. Full user service is available, along with training options and design templates for a number of applications.

INMAGIC is particularly efficient in organizing text records of variable length. The size of a field or the number of records in a data base is unlimited. The software supports a full nested Boolean query language (using AND, OR, NOT) that can be used to perform rapid searches for any word or word stem in a field.

A flexible report generator allows you to create your own formats for printing search or sort results in INMAGIC. You can format entire records or just selected fields and can arrange them in sophisticated presentations, depending on your specific needs.

Data entry and modification can be done using INMAGIC's prompting screens. Or, you can use one of the many word processing packages compatible with INMAGIC to prepare information for your data base.

Two industry-specific overlays have been designed for use with INMAGIC. INCASE and BIBLIO, for litigation support and corporate library markets, respectively, consist of record designs and printing formats that provide a ready-made framework for data base development.

Inmagic Inc offers a test program called TESTMAGIC, which consists of full documentation and a version of INMAGIC that allows you to build sample data bases of up to 50 records each. TESTMAGIC is available for most versions of the product for \$65.

INMAGIC is available outside the United States from dealers in Australia, Canada, and the United Kingdom.

A version of this product is available for VAX computers.

**Price:** \$975 - \$13,500

**Contact:** Dinah Voorhies, Sales Representative

(617) 661-8124

INMAGIC INC

238 Broadway

Cambridge, MA 02139

### **INVSIM (Inventory Simulation)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Inventory • Modeling/simulation

Memory required: 8K.

INVSIM simulates inventory systems in a time-sharing environment. The program's options include heuristic rules for guiding the selection of decision variables; simulation of TZ, SQ, and SZ inventory policies; and the ability to find the sensitivity of costs and availability to unit costs, lead time, demands, randomness, and various decisions. DECUS number 11-182.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **Job Cost Accounting**

**PDP-11 Operating System:** RSX

**Keywords:** • Cost accounting • Payroll • Project management  
• Report writer

This module is designed for professional services firms, government contractors, and manufacturers who need to track job costs. The module also tracks open purchase orders, accounts receivable, work in process, and client payments. A detailed report, showing a line item for each charge, job summary, labor allocation and productivity, daily hours (certified payroll), and customer-designed reports, is provided.



Job Cost Accounting features up to 1000 subdivisions for each job to report costs by department, job phase, and so on; multiple methods for computing overhead and for determining billing rates; a variety of report versions, with multiple selection criteria for determining report contents; table-driven report formats that can, in many cases, be changed with no reprogramming; and a multiple hierarchy for subtotals.

Job Cost Accounting is available separately or as a part of an integrated package with payroll, accounts receivable, accounts payable, purchase order, and general ledger. Custom tailoring is available. Complete maintenance and support are available under contract. On-site installation and training, a bill of materials processor, and inventory control are optional.

A version of this product is available for VAX computers.

**Price:** \$8000 +

**Contact:** Janna McMillan  
(617) 275-5810

BREUER & CO.  
54 Middlesex Turnpike  
Bedford, MA 01730

### **KEYWORD Information Manager**

**PDP-11 Operating System:** RSX

**Keywords:** • Data base management • Data dictionary

This package for commonly needed information storage and retrieval functions is oriented toward groups of information that can be accessed in various ways. KEYWORD can be used in prospect management to maintain detailed information on customers and prospects and to retrieve data on only some prospects. KEYWORD can keep a variety of information on each of a number of current projects, along with historical data for past projects, and can also maintain comprehensive personnel records.

Each KEYWORD information group can have numeric, alphabetic, and other data fields, which may be defined and changed by the user. The user may use up to 1800 characters to describe each group, along with a file text for each group of unlimited size. In addition, each information group may have several groups of up to 100 user-defined keywords, each of which can be used to access the group, and up to several hundred numeric fields that can be used to access the group.

Reports, like the data base, can be tailored to your needs. You get only the information that you want, in the format that you want.

A version of this product is available for VAX computers.

**Price:** \$4000 +

**Contact:** Janna McMillan  
(617) 275-5810

BREUER & CO.  
54 Middlesex Turnpike  
Bedford, MA 01730

## LEDGR

### PDP-11 Operating System: RT-11

**Keywords:** • Data base management • Inventory  
• Query facilities • Warehousing

This collection of four programs, written in FORTRAN and MACRO, is used for creating, maintaining, and using a data base management system that will operate under RT-11 V4 (SJ or FB) on a system consisting of at least a PDP-11/03 with RX01 (H-11 and H-27), an optional printer, and a terminal with direct cursor-positioning ability (H-19, VT52, VT100, and so on). Reverse video is recommended but not necessary for operation. Versions are available for use with and without the EIS/FIS chip and for operation under HT-11 (Heath H-11 system); the programs can be customized for other terminals. Any number of LEDGR files can be created and operated on.

The records can contain 20 fields (given unique 8-character names), in which the data can be a character (a maximum of 80), an integer (a maximum of 8 decimal digits), or a fixed-point number (a maximum of 9 characters). The data record length (sum of data fields + 8) can be no greater than 512 bytes. The maximum number of data records in a LEDGR file is 999. All statistics describing the structure of the data base and its data fields can be displayed on either the terminal or the printer.

All programs are menu driven, with explanations and information provided within each option. The data entered and the required instructions to LEDGR are extensively error checked at entry time. After the first data record has been entered, data for the current field can be taken from the same field as the previously entered record.

Records can be searched for specified contents of specified fields: if alphanumeric, for containing the provided search string; if numeric, being <, =, or > the provided value. Up to four conditions can be "AND"ed, "IOR"ed, or "XOR"ed. After being located, the record can have the data in any field modified, deleted, or printed. Data fields can be printed or displayed for all or only selected records, based on the supplied criteria.

A utility program allows file characteristics to be altered after creation. The data file can be sorted on as many as six keys, using the specified fields, in ascending or descending order.

Report analysis allows performing the arithmetic operations of sum, average, and median either for all numeric fields over all records or for specified fields over selected records. Additionally, data from all records can be printed, transferred to a new LEDGR file, or displayed with only specified fields in any specified order. Optional features



include form letter and mailing label generation. A demonstration package is also available on RX01 for \$25.

**Price:** \$200 - \$250

**Contact:** Donald D. Miller  
(816) 747-6824

GEMSTONE COMPUTER SERVICE

303 West Gay  
Warrensburg, MO 64093

## Leverage

**PDP-11 Operating System:** VENIX™

**Keywords:** • Data base management • Data entry  
• Menu handlers • Text management

This general-purpose, inexpensive data base system gives users easy access to advanced UNIX\* capabilities and is useful on any UNIX\* machine. Leverage provides full-screen data entry and retrieval, record selection, and mail-merge capabilities and serves as a menu-driven front end to standard UNIX\* utilities. Leverage is well suited for use in mailing-list and document-production applications, particularly in the publishing and legal markets.

Leverage stores its data in standard UNIX\* text files with variable-length fields and records, thus providing sophisticated report generation using the UNIX\* awk, sort, tbl, and troff programs. Leverage deals with one data file at a time, so it lacks the relational or hierarchical structures of true data base management systems. In applications not requiring a full DBMS, Leverage is often the most effective solution.

VENIX™ is a trademark of VenturCom, Inc.

A version of this product is available for VAX computers.

**Price:** \$385

**Contact:** John Roseman  
(212) 349-3355

URBAN SOFTWARE CORP.

93 Nassau Street  
New York, NY 10038

## MAPS/DB

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Decision support  
• File management • Management

MAPS/DB provides fully integrated data management and retrieval capabilities, based on a relational data design that allows users to manipulate, store, and link data as desired. A user can create a data base with interactive update and maintenance procedures. Other features allow interactive inquiry and ad hoc report generation to provide access to the data. All the features use English-language commands that allow non-data processing managers to create their own systems.

## 822 Information Management

A version of this product is available for VAX computers.

**Price:** \$12,000 – \$25,000

**Contact:** Kevin Walsh  
(415) 856-1100

ROSS SYSTEMS, INC.  
1860 Embarcadero Road  
Palo Alto, CA 94303

### **Microlink**

**PDP-11 Operating System:** CTS-300, RT-11

**PRO Operating System:** RT-11

**Keywords:** • Data base management

This computer-aided microfilm retrieval system maintains the data base of images complete with roll and frame number. The software provides multikey access and features an automatic link to microfilm reader/printers.

A version of this product is available for VAX computers.

**Price:** \$4000 – \$8000

**Contact:** David L. Ley  
(313) 855-6181

RADLEY BUSINESS COMPUTERS  
7071 Orchard Lake Road, Suite 305  
W. Bloomfield, MI 48033

### **Micro/RSTS DATATRIEVE-11**

**PDP-11 Operating System:** Micro/RSTS

**Keywords:** • Data base management • Data dictionary  
• Query facilities • Report writer

Memory required: 64K.

This interactive query, report, and data maintenance system uses the RMS-11 record management services to access data contained in disk files of sequential, indexed, or relative organization. Micro/RSTS DATATRIEVE-11 provides facilities for selective data retrieval, sorting, formatting, updating, and report generation without the need for programming.

Record and domain (file) definitions entered in Micro/RSTS DATATRIEVE-11 are stored in data dictionaries shared by Micro/RSTS DATATRIEVE-11 users. Data dictionaries can also be used to store frequently used sequences of commands to be recalled and processed later. Commands are provided to list the contents of the data dictionary, to delete entries, and to control access to individual entries in the data dictionary.

This system provides the Application Design Tool (ADT) to assist the novice in creating domain and record definitions. The ADT uses an



interactive dialog technique to guide the user through the data definition process and creates an indirect command file that updates the Micro/RSTS DATATRIEVE-11 data dictionary.

The report writer provides easy-to-use commands to control the report name, date, and page numbering and width and length; detail line specifications; and multiple report sections and control break specification with automatic totaling at any level.

Micro/RSTS DATATRIEVE-11 uses a set of English-like commands for data retrieval, modification, and display. Prompting is automatic for both command and data entry. In addition to the simple data-manipulation commands, more complex commands, such as REPEAT, BEGIN-END, and IF-THEN-ELSE, are available for the advanced user.

Refer to SPD #18.30.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$1200

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Micro/RXS DATATRIEVE-11**

**PDP-11 Operating System:** Micro/RXS

**Keywords:** • Data base management • Data dictionary  
• Query facilities • Report writer

This interactive query, report, and data maintenance system for the less sophisticated computer user uses the RMS-11 record management services to access data in disk files of sequential, indexed, or relative organization. The software provides facilities for selective data retrieval, sorting, formatting, updating, and report generation without the need for programming.

Record and domain (file) definitions are stored in data dictionaries shared by Micro/RXS DATATRIEVE-11 users. Data dictionaries can also be used to store frequently used sequences of commands to be recalled and processed later. Commands are provided to list the contents of the data dictionary, to delete entries, and to control access to individual entries in the data dictionary.

The software provides the Application Design Tool (ADT) to assist the novice in creating domain and record definitions. The ADT uses an interactive dialog technique to guide the user through the data-definition process and creates an indirect command file that updates the Micro/RXS DATATRIEVE-11 data dictionary.

The report writer provides easy-to-use commands to control report name, date, and page numbering and width and length; detail line specifications; and multiple report sections and control break specifications with automatic totaling at any level.

English-like commands support data retrieval, modification, and display. Prompting is automatic for both command and data entry. In addition to the simple data-manipulation commands, more complex

commands, such as REPEAT, BEGIN-END, and IF-THEN-ELSE, are available for the advanced user.

Refer to SPD #18.15.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$1200

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **Micro/RXS FMS-11 (Forms Management System)**

**PDP-11 Operating System:** Micro/RXS

**Keywords:** • Data entry • Forms management  
• Menu handlers • Query facilities

This forms-oriented, video I/O management system for the Micro/RXS operating system functions as an independent software front end that logically off-loads the complexities of interactive video I/O management from the application program. Forms defined using Micro/RXS FMS-11 can use the following features of DIGITAL's VT100 terminal series or VT200 series in VT100 mode: reverse video, bold, underlined, and blinking characters; 132-column lines; jump and smooth scrolling; and split and reverse screen.

The system can be used as a general-purpose manager of operator I/O or as a front end in traditional source data entry applications. Possible applications range from data base inquiry/response/update to periodically displaying the status of a real-time process or accepting control information from the operator for the process.

Application programs can be coded in MACRO-11 or one of the following high-level languages: Micro/RXS FORTRAN-77, Micro/RXS BASIC-PLUS-2, or Micro/RXS COBOL-81.

Micro/RXS FMS-11 consists of the following software components: FED (Form Editor), used by the application developer to create and modify video forms; FUT (Form Library Utility), the multifunction utility program for manipulating files of form descriptions; and FDV (Form Driver), the reentrant subroutine called from application programs to control screen processing.

Prerequisite software for application execution includes the Micro/RXS operating system (Base Kit) and, for application development, the Micro/RXS operating system, MACRO-11, or one of the following supported languages: Micro/RXS FORTRAN-77, Micro/RXS BASIC-PLUS-2, or Micro/RXS COBOL-81.

Refer to SPD #18.34.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** Available upon request

**Contact:** Consult your local DIGITAL sales office (see Introduction).



## Milldata

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Data base management • Forms management  
• Query facilities • Report writer

This relational data base management system provides the following features:

- User-defined data tables, permitting the retrospective introduction of new fields
- User-defined forms on a VDU screen for user access to a data base
- Windows on VDU forms for data record entry, editing, and display
- Ad hoc enquiry and report-generation facilities
- Program-level interface (MillPro) for generating dedicated data base applications
- Management Information Language (MIL), designed for nonspecialist users

A version of this product is available for VAX computers.

**Price:** £4000 – £8000

**Contact:** L. Bennett

(0734) 699777

D. M. ENGLAND & PARTNERS LTD.

Lytham Court, Lytham Road

Woodley, Reading

Berkshire RG5 3PQ England

## MIMER: The Software Machine

**PDP-11 Operating System:** RSX

**Keywords:** • Application development • Data base management  
• Programming tools • Query facilities

Memory required: 1MB.

MIMER, developed by Mimer Information Systems AB and written in both FORTRAN and LISP, is a relational data base and fourth-generation language system. Its heart is MIMER/DB, a powerful full-function relational data base giving full multiuser transaction management with concurrent control, automatic restart and recovery facilities, automatic primary and secondary indexing of data, a conventional programming language interface, and an active data dictionary. The other integrated modules include MIMER/SH, a screen handler; MIMER/QL, an easy-to-learn command language enabling users to make their own inquiries and set up their own applications; MIMER/PG, a program generator for specifying and testing applications in a very high-level language that can then be generated into FORTRAN or COBOL source; and statistical, graphics, and information retrieval functions. MIMER is portable and provides the reality of using the same system on a mix of computers, from mainframes to micros.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Mel Gosling  
44 (524) 734505

SAVANT ENTERPRISES

2 New Street

Carnforth, Lancashire LA5 9BX England

### **Miracle Viewdata**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Data collection • Query facilities  
• Systems communications • Text management

This complete private information Viewdata system for business users contains a set of program packages providing a user inquiry system with standard Prestel features, ease-of-use enhancements, and Gateway facilities for data collection, interactive applications, and access to other software systems. Miracle Viewdata provides communications software for exchanging information with Prestel and a sophisticated editor for creating and maintaining Viewdata frames.

Other facilities include data collection frames and user statistics.

A version of this product is available for VAX computers.

**Price:** £4000 – £20,000

**Contact:** L. Bennett  
(0734) 699777

D. M. ENGLAND & PARTNERS LTD.

Lytham Court, Lytham Road

Woodley, Reading

Berkshire RG5 3PQ England

### **Mistress "Plus"**

**PDP-11 Operating System:** UNITY

**Keywords:** • Data base management • Programming tools  
• Query facilities • Report writer

In the Mistress relational data base management system, data is managed as tables, and data correlation over several tables is based on any related data they contain. A query language that supports IBM SQL functions provides straightforward management of numerical and textual data, with complete on-line help screens. Information retrieval consists of selecting records from tables, limiting output with specified conditions.

The data base can be accessed from UNIX\* shell scripts, C, FORTRAN, and COBOL programs. Written in C, the system is robust, modular, and easily portable, providing indexing using VSAM, dynamic storage allocation, and table locking.

Fully integrated with Mistress, the M-Writer report writer enables users to customize data base output. M-Writer features easy-to-use



formatting statements, arithmetic expressions, and query language interface with Mistress.

M-Vision, a full-screen interface for Mistress, enables users to design their own screen layouts for interactive data base operations. M-Vision is used to provide a menu-driven interface that allows non-technical users to carry out data base management tasks by using simple keystrokes.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Doran Foeller or Penny McCormick  
(416) 922-1743

RHODNIUS INC.

250 Bloor Street East

Toronto, Ontario M4W 1E6 Canada

## **Mistress Relational Database Management System**

**PDP-11 Operating System:** UNITY

**Keywords:** • Data base management • Graphics  
• Query facilities • Text management

Mistress, the fully relational data base management system for UNIX\*, features the Structured Query Language for the end user and standard programming interfaces to the C language for the data processing professional. Advanced concepts include variable-length character fields, dynamic storage allocation, and B+ tree indexing. Mistress has been designed for the UNIX\* environment and is written in C.

Using SQL commands, the user can create or drop tables and indexes, display data bases or tables, and select, delete, update, insert, and sort data in tables. Mistress classifies information, using a variety of data types, including date, character, dollar, integer, float, and text (variable-length character). Mistress provides easy-to-use commands, on-line help, meaningful error messages, and a built-in editor. The system asks for data interactively, prompting for each field value and checking for input errors.

Mistress has three interfaces to the C programming language, an interface to the UNIX\* shell, and optional interfaces to other high-level languages. Multiple concurrent users are supported with complete data integrity. Mistress dynamically maintains B+ tree indexes to ensure faster record retrieval. Efficient bulk loading and unloading of data from standard files provide compatibility with large mainframe installations.

Mistress's innovations provide the superior software solution for data base, information systems, office automation, local networking, color graphics, and CAD/CAM applications.

A version of this product is available for VAX computers.

**Price:** Available upon request

**Contact:** Doran Foeller or Penny McCormick

(416) 922-1743

RHODNIUS INC.

250 Bloor Street East

Toronto, Ontario M4W 1E6 Canada

### **Mistress/32**

**PDP-11 Operating System:** UNITY

**Keywords:** • Data base management • Forms management  
• Programming tools • Report writer

In the comprehensive, fully relational Mistress/32 data base management system, data is managed as tables, including the data dictionary. Data correlation over several tables is based on any related data they contain.

A query language that fully supports IBM SQL functions provides straightforward management of numerical, character, date, textual, and bit stream data, with complete on-line help screens. Information retrieval consists of selecting records from tables and logical views, limiting output with specified conditions.

The data base can be accessed from UNIX\* shell scripts, C, FORTRAN, and COBOL programs. Written in C, the robust, modular system is easily portable and provides indexing using VSAM, dynamic storage allocation, and record, table, and group locking.

Mistress/32 comes with M-Writer/32, a report writer for customizing data base output with easy-to-use formatting statements, arithmetic expressions, and query language commands; and M-Vision/32, a full-screen, menu-driven, programmable interface for interactive data base operations. An application builder, M-Builder, is available as an option.

The M-Builder system features full-screen drawing and a structured environment for applications development. M-Builder acts as a menu interface to UNIX\* and Mistress/32 and runs customized applications accessing any Mistress/32 data base.

The system features default applications granting Mistress/32 table access using only function keys, input/output screen customization without programming, and extensive visual controls. The system supports multiple overlapping windows, which can be expanded, made smaller, and moved in response to function keys.

More complex application processing is controlled by scripts written in a simple language that supports standard programming concepts, such as looping, procedure calls, parameter passing, recursion, conditional statements, and dynamic variable creation.

A version of this product is available for VAX computers.



**Price:** Available upon request

**Contact:** Doran Foeller or Penny McCormick  
(416) 922-1743

RHODNIUS INC.

250 Bloor Street East

Toronto, Ontario M4W 1E6 Canada

## MP System

**PDP-11 Operating System:** CTS-300, RSTS, RT-11

**Keywords:** • Data base management • List processing

Memory required: 64KB.

This series of menu-driven programs, written in DIBOL, can easily be customized to meet the mailing, membership, and management needs of publishers; trade, professional, and religious groups; associations; and other organizations. Flexibility begins with a choice of data processing methods: batch mode, on-line interactive processing, or turnkey system. A well-designed master file provides access to all the services offered and acts much like a data base, giving you flexible coding fields and event files to permit maintenance of extensive information in each record, which is available to all programs in the system.

Important areas covered include membership record maintenance, renewal notices and billing, listings and labels, statistical reports, publication mailing lists, and personalized letters. Convention and seminar services of the MP System can handle registration details and produce name tags. Financial applications are also available.

The MP System is modular; you pay only for services used. The fields can be interfaced to word processing applications and integrated with outside systems as required. No matter what service or equipment is used, Hartley Data is committed to a level of support and guidance that ensures a smooth operation.

**Price:** Available upon request

**Contact:** Ruth K. Koolish  
(312) 724-9280

HARTLEY DATA SYSTEMS, LTD.

1807 Glenview Road

Glenview, IL 60025

## ORACLE® Relational Data Base Management System

**PDP-11 Operating System:** Micro/RSX, RSX

**Keywords:** • Data base management

ORACLE, installed at more than 1000 sites worldwide, is implemented for a wide variety of DBMS applications, including medical research, government, education, financial management and accounting, project management and control in manufacturing, and engineering research and development. ORACLE is designed for networking and distributed data base capability and is highly portable (source language is C) across computer systems. Features include the SQL PLUS

nonprocedural data language, a fully integrated data dictionary, an interactive screen facility, a report writer, and other application development tools for all levels of users, as well as transaction journal and data base maintenance utilities.

A version of this product is available for VAX computers.

**Price:** \$600 – \$96,000

**Contact:** Oracle Corp.

(415) 854-7350

ORACLE CORP.

2710 Sand Hill Road

Menlo Park, CA 94025

## Pack

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Decision support • Forecasting • Sales analysis  
• Statistics

This comprehensive statistical system, written in FORTRAN IV and based on single-equation Box-Jenkins theory, builds models from time-series data. The model is estimated, tests for sufficiency and necessity are examined, and then the model is used to forecast. During the estimation process, the data is reduced to noise that, along with the standard errors of the estimated parameters, is used to provide forecast uncertainty.

The system allows the user to optionally perform univariate or multiple-input analysis either interactively or through a batch run for the following:

- Univariate time-series model identification, estimation, diagnostic checking, and forecasting
- Single-input transfer function model identification, estimation, diagnostic checking, and forecasting
- Multiple-input transfer-function model identification, estimation, diagnostic checking, and forecasting
- Intervention model estimation, diagnostic checking, and forecasting

Preliminary estimates, univariate conversion, transfer function conversion, aggregated forecast variance, improved transfer function identification, the preprocessor, and the automatic univariate identification routines are available at modest rates to enhance the system.

A version of this product is available for VAX computers.

**Price:** \$200 – \$2400

**Contact:** D. P. Reilly

(215) 675-0652

AUTOMATIC FORECASTING SYSTEMS, INC.

P.O. Box 563

Hatboro, PA 19040



## **Pioneer COMMAND System for Financial Management, Distribution, and Manufacturing**

**PDP-11 Operating System:** RSTS

**Keywords:** • Data base management • Distribution  
• Financial management • Manufacturing

The COMMAND System, developed by Pioneer Software International, is interactive, on line, user friendly, and totally integrated. This system is written in BASIC-PLUS-2 and requires a minimum of 128K words. Because the system is based on UserWare International's USER-11 Database Management System, extensive on-line inquiry and ad hoc reporting are available.

The COMMAND System consists of Sales Order Processing, Accounts Receivable, Purchase Order Processing, Accounts Payable, General Ledger, Inventory Management, Bill of Materials Processor, Master Production Scheduling, Rough Cut Capacity Planning, Material Requirements Planning (MRP), and Production Control, which consists of Work Order Processing, Routing, and Work Center Loading. The COMMAND modules are designed and function as integrated software but can be purchased and installed separately in almost any sequence. Because the system is based on USER-11, each module can be tailored to meet user requirements.

A version of this product is available for VAX computers.

**Price:** \$3000 - \$16,000

**Contact:** Richard A. Baldwin, Executive Vice-President  
(619) 745-6006

USERWARE INTERNATIONAL  
2235 Meyers Avenue  
Escondido, CA 92025

## **PORTACALC (AnalytiCalc): A 3-D Spreadsheet/Data Base System in VMS/BACKUP**

**PDP-11 Operating System:** IAS, RSTS, RSX

**Keywords:** • Calculation aids • Data base management  
• Spreadsheets

PORTACALC is a powerful 3-dimensional spreadsheet/data base and analysis system. This version permits DCL commands to be spawned, which enables you to interact with other applications without leaving the spreadsheet. Spreadsheet cells can test ASCII values of formulas and execute arbitrary commands from inside a cell program. Text integration permits a screen display of external files and integration with output or screen-controlled insertion of word processing files into spreadsheet outputs with screen-controlled indentation.

A built-in data management system interface permits spreadsheets to access unlimited files and records or parts of records for user-defined functions, numbers, formulas, and text. Merging of multiple sheets, matrix algebra, general function solving, and easy document

load/unload are included. User commands may be entered through keyword or function keys and are provided with a help system.

The program can be ported to other FORTRAN systems. Tutorials and documentation are supplied. Recustomizing for other terminals is easy.

Note: Changes and improvements include doubled speed through improved calculation, enhanced scrolling, and load with relocate. PDP-11 build procedures have been updated. A logical named area and MACRO support have been added. PDP-11 users, see DECUS number 11-SP-47. DECUS number V-SP-24.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **PORTACALC XL: Floppy Version**

**PDP-11 Operating System:** IAS, RSX

**Keywords:** • Calculation aids • Mapping • Spreadsheets

Memory required: 70KW.

This variant of the standard PORTACALC package for memory-mapping PDP-11s differs from the standard VAX or PDP-11 version. PORTACALC keeps data in a virtual array, so that the package can handle larger spreadsheets on a PDP-11 with no special functions beyond memory-mapping support. PORTACALC supports a 60 × 64 sheet, but the size can be modified by changing the SVKLUGPRM.FTN file's PARAMETER statements, which define physical sheet sizes.

Only VT100 support is provided, although other terminals can be added by using the standard version's routines. A modified copy of UVT52.FTN is provided to give VT52 support and may be used in place of UVT100.FTN. DECUS number 11-SP-56.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

### **PORTACALC/AnalytiCalc: A 3-D Spreadsheet/Data System**

**PDP-11 Operating System:** IAS, RSTS, RSX

**Keywords:** • Calculation aids • Data base management  
• Spreadsheets

This new version of PORTACALC adds speed, symbolic names and macros, area addressing, random numbers, new functions, and other enhancements. AnalytiCalc can do matrix math and has some routines for interactively searching up to 8-dimensional spaces for solutions to problems.

This powerful 3-dimensional spreadsheet/data base and analysis system runs on PDP-11 systems that support the F4P compiler or on VAX systems needing the VAX FORTRAN compiler to compile. The program is designed for portability to other FORTRAN systems. The



PORTACALC manual is designed to be turned into a system help file so that the manual can be read on line. Tutorials are supplied as well.

A data management system interface is built in, permitting spreadsheets to access a potentially unlimited number of files and records or parts of records in those files for user-defined functions, numbers, formulas, and text. Merging of multiple sheets, matrix algebra, general function solving, and easy document load/unload make this spreadsheet more powerful and easier to customize than all but the most elaborate mainframe packages. A powerful text integration function permits integration of word processing files with reports, permitting use of AnalytiCalc to integrate sections of reports edited with any editor. DECUS number 11-SP-47.

A version of this product is available for VAX computers.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## PRO/DATATRIEVE

**PRO Operating System:** P/OS

**Keywords:** • Data base management • Data dictionary  
• Query facilities • Report writer

This interactive query, report, and data maintenance system provides facilities for selective data retrieval, sorting, formatting, updating, and report generation without the need for programming on the Professional hard disk system. The software includes a callable DATATRIEVE task image (PROCALDTR.TSK). Users who have PRO/Tool Kit or Professional Host Tool Kit can call PRO/DATATRIEVE from a Tool Kit language.

The product provides an Application Design Tool (ADT) that helps the user create domain and record definitions. ADT uses an interactive dialog technique to guide the user through the data definition process and creates an indirect command file that is then processed to store the definitions in the DATATRIEVE Data Dictionary.

P/OS hard disk is prerequisite.

Refer to SPD #40.26.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$495

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## PRO/RDT

**PRO Operating System:** P/OS

**Keywords:** • Data base management • Software utilities  
• Telecommunications

This information management tool works with PRO/DATATRIEVE to let the user extract selected information from a DATATRIEVE domain on a remote host, which can be another Professional, a VAX, a DECsystem-20, or a PDP-11 system. The remote host must have DECnet or

PRO/DECnet and a DATATRIEVE Distributed Data Management Facility (DDMF) task installed. PRO/DDMF, which is packaged with the PRO/RDT application, lets the Professional be a remote host for other PRO, VAX, DEC-20, or PDP-11 systems. PRO/RDT uses DECNET as the transfer medium. DATATRIEVE and its protocols control the information transfer.

PRO/RDT is menu driven and contains extensive on-line help. Menus prompt the user for all information needed to create and process an abstract description, or EXTRACT. An EXTRACT identifies the computer system the user wants to access and the DATATRIEVE data to be retrieved. This information includes system node name, user name, password, dictionary, and domain name. The user is also prompted for the name of the dictionary domain and data file where the extracted information will be stored.

P/OS hard disk, PRO/DECnet, and PRO/DATATRIEVE are prerequisite.

Refer to SPD #40.44.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$495

**Contact:** Consult your local DIGITAL sales office (see Introduction).

### **ProtoCall 1000™**

**PRO Operating System:** P/OS

**Keywords:** • Calculation aids • Data base management  
• List processing

DIGITAL manufactures and distributes this product under license from Software Insights Company.

This product, for executives or professionals whose telephone communications account for a major portion of their business dealings, creates and maintains directories of names, companies, groups, calls made and received, events, and meetings. These directories can be searched by name, company, subject of calls, dates and times of calls, and so on.

ProtoCall 1000 enables the user to develop profiles containing any data desired. Information about people and organizations that have similar characteristics can be retrieved. Specific profile data items can be used to generate reminders of certain events. Calls can be dialed automatically, including long distance over MCI- or SPRINT-type services. A telephone accounting and reporting system allows the user to keep track of professional time spent on the telephone and to create a record of charges.

P/OS hard disk operating system is prerequisite.

Refer to SPD #A2.64.xx when requesting further information on this product from your local DIGITAL sales office.

ProtoCall 1000™ is a trademark of Software Insights Company.



**Price:** \$395

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## QUILL

**PDP-11 Operating System:** CTS-300

**Keywords:** • Data base management • Data dictionary  
• Report writer • Text management

QUILL creates impromptu reports and terminal queries from existing data files. Through the use of English-like commands, a novice can design the desired output without the need for programming.

QUILL has an additional output command that creates a list document (file) for the word processing application DECType CTS-300. By issuing commands similar to making a query, QUILL creates the list document on disk, which can be accessed by DECType's list processing facility or editor.

QUILL uses dictionaries to describe data files. Logical field names assigned to each field are used with QUILL's commands to extract the desired data. QUILL's dictionaries support CTS-300 fixed-length, sequential, and ISAM file structures.

Refer to SPD #12.55.xx when requesting further information on this product from your local DIGITAL sales office.

**Price:** \$595 - \$900

**Contact:** Consult your local DIGITAL sales office (see Introduction).

## RDM™ (Responsive Data Manager)

**PDP-11 Operating System:** Micro/RSX

**PRO Operating System:** P/OS

**Keywords:** • Application development • Data base management  
• Forms management • Report writer

Memory required: 256KB. Distribution medium: RX50.

DIGITAL distributes this product under license from Interactive Technology, Inc.

This complete implementation package for data storage and retrieval applications provides the tools to create data files and to input screens, reports, and processes that can be accessed by user-defined menus and commands, if desired. File-maintenance utilities provide for extracting, merging, purging, and sorting data files.

RDM provides the following functions for application development:

- Files to allow the user to use the dictionary for a file definition, create a data file from the dictionary, copy a data file, and convert a data file to add a new field
- Forms to permit the user to create an input form, enter data into a file with a form, search data files for specific records, and edit records, using an input form
- Processes to allow the user to define processes to move data, to calculate, and to create new files

- Reports to allow the user to define columnar reports, define formatted reports, merge data from files for reports, and select data for reports
- Menus to let the user create user-defined menus and commands and process user-defined help files
- System management to permit the user to set the security of a file, field, and command and to create passwords for security

Refer to SPD #A4.46.xx (MicroPDP) or A3.40.xx (Professional) when requesting further information on this product from your local DIGITAL sales office.

RDM™ is a trademark of Interactive Technology, Inc.

**Price:** \$995 – \$2495

**Contact:** Consult your local DIGITAL sales office (see Introduction):

### **Reliant**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Data base management • Data dictionary  
• Data entry • Report writer

The Reliant information management system provides a mechanism for organizing and processing data from any application and builds a custom computer software system. The system consists of:

- The data definition system, which allows you to quickly define the information you want to enter into the computer
- The general data entry layer, which uses your definitions to prompt you in error-free data entry, revision, and deletion
- The report generator, which allows you to quickly specify what subsets of your information you want to retrieve and in a user-defined format

You can change either data or report definitions at any time, and you never need to learn a computer language to use the system.

A version of this product is available for VAX computers.

**Price:** \$1200

**Contact:** Dr. Blaine Garfalo, President  
(216) 421-8737

DAYSTROM SYSTEMS, INC.

11206 Euclid Avenue

Cleveland, OH 44106

### **RETCON**

**PDP-11 Operating System:** RT-11

**Keywords:** • Data conversion • Graphics

Memory required: 10KB.

This program displays the contents of the Reticon RSB6320 interface board when connected to an LC-series line scan camera. The pixel numbers where the transitions have occurred (address) or the number of pixels between transitions (count) can be displayed on a continuous



or a periodic basis. The user can specify the number of scans that are averaged together prior to display. DECUS number 11-658.

**Price:** \$5 - \$225

**Contact:** DECUS (see Introduction)

## Retrieval

**PDP-11 Operating System:** RSX

**Keywords:** • Data base management • Data dictionary  
• Query facilities

Memory required: 512KB and 10MB storage capacity.

This self-contained, user-oriented, easy-to-use package, written in C, provides storage and on-line retrieval of data and text documents. The user-defined document structure consists of at least one segment with formatted data and at least one segment with free text. Based on a controlled dictionary (Thesaurus), the system renders automatic indexing of the free text. No manual indexing is required.

The program product applies the Oracle relational data base management system as the support system and access method. While Oracle makes available the powerful SQL language for data manipulation and retrieval of formatted data, DIGITRIEVE expands the Oracle capabilities to unformatted data by implementing the syntax of the IBM industry-standard "Stairs."

The formatted data fields are accessible by the SELECT command; the free-text documents are accessible by SEARCH, using any word or phrase listed in the dictionary.

Relational DIGITRIEVE-11 applies the inverted-file technique. For each term listed in the dictionary, DIGITRIEVE-11 maintains an inverted list, which facilitates quick access to target information.

A version of this product is available for VAX computers.

**Price:** \$800 - \$4800

**Contact:** Dr. E. Wessner

(0222) 54 33 52-53

C.T.A. COMPUTER TECHNOLOGY & AUTOMATION

Margaretengürtel 12

A-1050 Vienna Austria

## RTFILE

**PDP-11 Operating System:** Micro/RSX, RSTS, RSX, RT-11

**PRO Operating System:** P/OS

**Keywords:** • Application development • Data base management  
• File management

RTFILE is an interactive relational data base management system combined with an object library for use in developing nonprocedural applications. Interactive menu-driven utilities include data base definition/data dictionary; relational algebra; CRT screen/form generation; transaction processing; sort, select, and calculate specification

generation; report generation and query language; list processing; and FORTRAN, Pascal, C, and MACRO-11 program language interfaces.

This product is distributed in Europe by Hammond Software: Stiegbreite 1, D-3400 Goettingen, West Germany; or 80 City Road, London EC1 Y2AR, Great Britain.

A version of this product is available for VAX computers.

**Price:** \$500 - \$5000

**Contact:** Judith C. Mangels  
(301) 654-9120

CONTEL INFORMATION SYSTEMS  
4330 East-West Highway, Suite 200  
Bethesda, MD 20814

### **SATURN-BASE®**

**PDP-11 Operating System:** Micro/RXS, RSTS, RSX, RT-11,  
TSX-PLUS™

**PRO Operating System:** P/OS

**Keywords:** • Accounting • Application development  
• Data base management

This comprehensive million-record data base management system consists of a data entry system, a utilities program, an interactive query system, and a report generator language. Applications developers and end users can create custom-designed systems and reports. The package is equipped with accounts receivable, depreciation, inventory applications, and an integrated library of development tools. SATURN-BASE interfaces with existing SATURN® products and user-developed systems.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$1850 - \$8750

**Contact:** Michael Raimondi, Marketing Manager  
(612) 944-2452; (800) 328-6145; Tlx 290322 Saturn Edna  
SATURN SYSTEMS, INC.  
6875 Washington Avenue S., Suite 218  
Minneapolis, MN 55435

### **SEED DBMS (Data Base Management System)**

**PDP-11 Operating System:** RSX

**Keywords:** • Data base management • Data dictionary  
• Forms management • Query facilities

This system enables the applications developer to efficiently implement systems that involve complex data base designs, large volumes of data, and high data base transaction rates. SEED uses artificial intelligence-derived techniques to give the end user a relational-view interface into large, complex data bases without taking away the important



time-saving efficiencies of SEED's network implementation. SEED provides the following features:

- A comprehensive set of technical tools for applications development, data base performance tuning, and system maintenance.
- Friendly, nonprocedural report and query facilities for end users, managers, and decision makers.
- Entity/relationship information modeling, which encourages sound design. SEED's physical network structure allows the user to build systems that exploit the power of that design.
- Highly efficient methods of data storage and retrieval, tuneable by the DBA for the specifics of the application, actual usage, and the specific hardware installed.
- Different views of the data base for the differing requirements of individual users. These subschema user views provide password-based security protection down to the field and relationship levels, as well as protect programs from additions to both the logical and physical data base designs — providing true data independence.
- Brief, clear, English-like commands in both end user- and developer-targeted SEED processors. Both extensive help facilities and on-line access to data dictionary information throughout the system make applications user friendly and self-documenting.
- Protection from the effort and down time associated with reorganizations, because SEED data bases can expand dynamically as more space is needed.
- Optional use of COBOL, FORTRAN, Pascal, PL/I, and C applications with the same data base.
- Journaling and privacy locks to protect the integrity and security of the data base.

A version of this product is available for VAX computers.

**Price:** \$995 – \$68,000

**Contact:** Lynn Neiswender

(703) 683-4944 or (800) 428-9400

SEED SOFTWARE CORP.

2121 Eisenhower Avenue

Alexandria, VA 22314

## **SPSS-11™**

**PDP-11 Operating System:** RSTS, RSX, RT-11

**Keywords:** • Data collection • Quality control • Scientific  
• Statistics

SPSS-11 is an applications software package for tabulation, statistical analysis, and general-purpose data management. Although tailored to run on microcomputer architecture, SPSS-11 retains the powerful yet easy-to-use command structure and the data and file-handling features of its parent version. Highlights of its statistical capabilities include frequency distributions; breakdown analysis; cross-tabulation; Pearson, Spearman, and Kendall correlations; *t*-tests; scattergrams; multiple regression; analysis of variance; and survival and

discriminant analysis. Data management facilities permit simplified handling of large files and subfile structures, as well as recoding of existing variables, creation of new variables, and selection, sampling, and weighting of specific cases. The SPSS-11 editor checks for SPSS command syntax and command order, without requiring job execution. Release 4.0 of SPSS-11 adds a report generator to customize formatted reports.

**Price:** \$3000 - \$6000

**Contact:** Susan Phelan  
(312) 329-2400

SPSS INC.

444 North Michigan Avenue  
Chicago, IL 60611

## SPSS/PRO™

**PRO Operating System:** P/OS

**Keywords:** • Data collection • Decision support • Research  
• Statistics

Memory required: 512K bytes.

SPSS/PRO, written in FORTRAN, is the first micro-sized version of SPSS, the most widely used information analysis system in the world. SPSS/PRO produces sophisticated statistics, manages large and small data files, and generates custom-formatted reports. More than 25 statistical procedures provide flexible handling of file and data transformations, forming a totally integrated information analysis system.

SPSS/PRO is ideal for commercial, educational, or research applications; inputs and outputs data in many forms; and solves your data analysis problems with one package. The easy-to-learn system responds to simple, English-language commands. Training is available through SPSS Technical Services, and the system is fully documented by McGraw-Hill.

SPSS/PRO is a powerful tool that does everything from performing advanced statistics to managing data files to producing presentation-ready reports. Since the system responds to simple English-language commands, you spend less time programming and more time focusing on results. The system handles tables, reports, statistics, graphs, file facilities, and data management.

**Price:** \$795

**Contact:** Judi Lapishon  
(312) 329-2400

SPSS INC.

444 North Michigan Avenue  
Chicago, IL 60611



**TAB — A Low-Overhead Data Management System****PDP-11 Operating System:** IAS, RSX**Keywords:** • Data base management**Memory required:** 28KW.

This package builds a set of tasks providing a small, relatively unsophisticated data management system in which the user can easily define and manipulate tables of data. Tables are arrays of rows and columns containing data in character form. Tasks are provided to define a table, modify the format of a table, update and list the contents of a table, and split and merge tables. An interpreter for a simple language (RPT) provides a means of writing specific applications, including report generation and table updating. TAB has provisions for arithmetic and string operations, terminal interaction, file I/O, conditional and repetitive execution, and subtasking. DECUS number 11-528.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**TELEP.BAS (Address Manipulator)****PDP-11 Operating System:** RT-11**Keywords:** • List processing • Presentation aids

TELEP.BAS is a useful, enjoyable program that orders, saves, edits, deletes, searches, and prints names, addresses, telephone numbers, and birthdays. TELEP.BAS lets your computer replace your "little black book." DECUS number 11-255.

**Price:** \$5 - \$225**Contact:** DECUS (see Introduction)**VDE (Viking Data Entry)****PDP-11 Operating System:** Micro/RSX, RSX**PRO Operating System:** P/OS**Keywords:** • Data entry • File management.  
• Programming tools

This option to the Viking Forms Manager is a complete data entry system for sequential files and is designed to eliminate all programming requirements. VDE links user-created forms definitions with a supplied key-to-disk system to create or update files. Information can be verified by rekeying data files for comparison. An examine mode for inquiry is available. VDE can replace keypunch and key-disk machines to increase production rates and reduce errors. Optional user-exit subroutines for complex applications can be programmed in a high-level language and inserted into the VDE program to customize the initialization of variables, control logic flow, validate data, or otherwise affect the reading and writing of data records.

A version of this product is available for VAX computers.

**Price:** \$200 - \$2000**Contact:** John R. Haley  
(918) 745-6550

VIKING SOFTWARE SERVICES, INC.  
2815 E. Skelly Drive, Suite 816  
Tulsa, OK 74105

### **VDM (Viking Data Manager)**

**PDP-11 Operating System:** Micro/RSX, RSX

**Keywords:** • Data entry • File management  
• Programming tools

This option to the Viking Forms Manager provides simple but complete production data entry into keyed index sequential files. Users can create, update, verify, and inquire into ISAM files, which appear as formatted screens presented on the CRT terminal by the interactive Viking Forms Painter. Data can be entered accurately and rapidly with VDM's data validation capability and special function keys. Menus and the interactive Viking Forms Painter (VFP) prompt the user and provide fill-in-blanks forms. VDM requires no programming for most applications; however, insertion of the optional user-exit subroutines can be used to implement the initialization of variables, control the logic flow, validate data, and select records for processing.

A version of this product is available for VAX computers.

**Price:** \$1250 - \$2500

**Contact:** John R. Haley  
(918) 745-6550

VIKING SOFTWARE SERVICES, INC.  
2815 E. Skelly Drive, Suite 816  
Tulsa, OK 74105

### **Viewmaster — Microfilm Indexing and Retrieval System**

**PDP-11 Operating System:** RT-11, TSX-PLUS™

**Keywords:** • Data base management • File management  
• Order processing • Query facilities

This computerized document storage and retrieval system works with microfilm cameras and retrieval units and can also be used as an automated retrieval device only. The system stores document-indexing information either during or after microfilming. The retrieval is then done with a reader/printer. The system is used where several documents must be stored and quickly retrieved.

Viewmaster offers advanced electronic engineering that allows multiterminal operation and maximizes hardware use. The software, a data base manager, allows user-designed data bases; thus, documents can be described in detail. Separate disks are used for archival so that document entry may occur while document searches are being made. Complete tutorial screens are available that give detailed instructions. User-defined reports, data entry screens, and a high-speed search technique are supplied. Both direct search and down-loading of multiple documents are supported. More than 75 options are available during system configuration. Searches are initiated with as many as three



items for more accurate searches. Multiple document attachments are handled for long documents to be filmed with minimum data storage.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$5000 – \$20,000

**Contact:** F. Green

(404) 977-2920

DIGITAL DATA SYSTEMS

1344 Johnson Ferry Road

Marietta, GA 30067

## **Zetar**

**PDP-11 Operating System:** ULTRIX-11

**Keywords:** • Data base management • Query facilities

This powerful, easy-to-use relational data base management system contains a nonprocedural query language, runs on the PDP-11, VAX, and MC68010 systems, and is fully supported. Zetar is also available for most UNIX\* systems.

A version of this product is available for VAX computers.

**Price:** \$800

**Contact:** Dr. Blaine T. Garfolo

(216) 421-8737

DAYSTROM SYSTEMS, INC.

11206 Euclid Avenue

Cleveland, OH 44106

There is a growing interest in the use of information systems to improve the quality of service provided to customers. This is particularly true in the case of the retail sector, where the use of information systems can help to reduce costs and improve efficiency.

# THE FUTURE OF INFORMATION SYSTEMS

The future of information systems is bright. As technology continues to advance, the range of applications for information systems will expand. This will lead to a more integrated and efficient use of information systems across all sectors of the economy. The use of information systems will also lead to a more personalized and tailored service for customers.

It is expected that the use of information systems will continue to grow in the coming years. This will be driven by a number of factors, including the increasing demand for information systems, the availability of new technologies, and the need for organizations to improve their efficiency and productivity.



## Insurance



Owen Franken/Stock, Boston

## **Easypost Insurance Agency Management System**

**PDP-11 Operating System:** RSX, RT-11, ULTRIX-11

**Keywords:** • Billing • Financial planning  
• Information management

Memory required: 128K.

This system, written in RM COBOL and developed by Advanced Business Systems, Inc., is a comprehensive, computer-based information system that offers agents complete control of their businesses. This program is continually upgraded, using the suggestions of industrial professionals, such as agents, accountants, and computer specialists. Easypost provides efficient customer service by offering easy access to customer information. A report listing customers with a potential for increased sales is available, thus improving a company's marketing strategy. The system automates daily and monthly accounting procedures by using standard accounting practices. This system also improves management and administrative decisions through such reports as Receivables Aged Analysis, Claims Status Register, Producer Production, Direct Bill, and Premium Finance Status.

A version of this product is available for VAX computers.

**Price:** \$4000

**Contact:** Bob Ginn

(901) 767-3759

INDUSTRY SOFTWARE SALES, INC.

P.O. Box 240804

Memphis, TN 38124

## **Group Health and Life Insurance**

**PDP-11 Operating System:** RSTS

**Keywords:** • Medical

This single, integrated on-line computer system automates the administration and claims processing of group health and life insurance. The system is used by agencies, third-party administrators, insurance companies, and other organizations that provide health and life insurance benefits to groups of individuals. The system has two modules: GBAS (Group Benefits Administration System) and CPS (Claims Processing System), both of which use the same data base for interface purposes.

The Group Benefits Administration module provides enrollment and maintenance of groups and individuals, automatic rating, premium calculation (including prorating) and billing, cash application, commission processing, carrier reporting, certificate and I.D. card issuance, and claims verification. The Claims Processing module provides eligibility determination, benefits calculation, production of checks and worksheets, on-line access to claim and payment history, and analysis of payment and premium history.

The system interfaces with word processing (DECword/DP) software.



**Price:** \$20,000 – \$90,000

**Contact:** Wendy Syrinek  
(713) 496-0771

SPARTIN SYSTEMS  
14925-A Memorial Drive  
Houston, TX 77079

### **IIAAS (Independent Insurance Agency Accounting System)**

**PDP-11 Operating System:** CTS-300, Independent, RSTS, RSX,  
RT-11, TSX-PLUS™

**PRO Operating System:** CTS-300, RT-11, TSX-11

**Keywords:** • Accounting • Information management  
• List processing • Office systems

IIAAS provides the small to medium-size independent insurance agent with electronic data processing. The system's segments consist of daily information processing; daily, weekly, and monthly reports; marketing and word processing capabilities; and communications features that permit the system to be expanded to interface with companies of network processors for policy issuing and company communications.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

**Price:** \$1995 – \$5000

**Contact:** Sam Wingate, Vice President  
(813) 935-8844

AUTOMATION RESOURCES CORP.  
2901 W. Busch Boulevard, Suite 309  
Tampa, FL 33618

### **Insurance Agency (Casualty)**

**PDP-11 Operating System:** RSTS

**Keywords:** • Billing • Sales and marketing • Statistics

The Insurance Agency (Casualty) package is structured for single-agency or multicompany operations and is built for customer service representative marketing concepts. The package uses an expansive policy file, permitting a large array of reports, advices, and letters. Invoices for current, prerenewal, installment, and advance bill are generated. The system also prepares sales statistics, accounts receivable statements and related reporting, accounts current, commissions, expirations, claim processings, customer profiles, insurance binders, cancellation requests, requests for policy changes and renewals, loss notices, certification of insurance, history ledger call-out, book of business, new business, and so forth.

**Price:** \$12,000 – \$16,000

**Contact:** R. Bud Brummer  
(605) 343-7800

CUSTOM COMPUTER SERVICES, INC.  
P.O. Box 1738  
Rapid City, SD 57709

### **Insurance Agency Package**

**PDP-11 Operating System:** CTS-300, RT-11

**Keywords:** • Accounts payable • Accounts receivable  
• General ledger • Sales analysis

This comprehensive system for the small to medium-size insurance agency handles the complete accounts receivable, accounts payable, and general ledger requirements of the agent, together with premium, commission, and sales analysis reports.

A version of this product is available for VAX computers.

**Price:** \$2000 - \$6000

**Contact:** Nigel Harris

(613) 829-8888

HARRIS COMPUTER SYSTEMS

16 Credit Union Way

Nepean, Ontario K2H 8R6 Canada

### **Insurance Business System™**

**PDP-11 Operating System:** RSTS

**Keywords:** • Accounting • Data base management  
• Sales analysis • Scheduling

This in-house insurance business system provides a complete range of functions covering personal and commercial lines for the smallest to the largest property and casualty insurance agency. System features include comparative quoting and rating of up to 13 companies at one time, total policy file retrieval, fully automated customer service, automatic billing, and check and draft issuance. Structured pending modes follow up insurance company and finance company returns, DIGITAL sheets, endorsements, cancellations, and so on. Additional premiums, suspense items, and all other paper pursuit of insureds is implemented not by lists, which require individual follow-up by office personnel, but by integration, which spews out invoices and correspondence that can be simply stuffed into window envelopes.

The system also provides sales charts from quotes to closing of every conceivable design, commission schedules, as well as automated preparation of all accord forms, and fixed and variable letter processing.

A version of this product is available for VAX computers.

**Price:** \$5000

**Contact:** Henry H. Hamilton Jr.

(305) 754-9636

AMERICAN GENERAL COMPUTERS, INC.

10192 N.W. 7th Avenue

Miami, FL 33150



**LIBERTY™ Agency Management System****PDP-11 Operating System:** Micro/RSTS, RSTS**Keywords:** • Accounting • Data base management  
• Property management • Sales and marketing

This independent property and casualty insurance agency management system includes all agency accounting, policy maintenance, marketing, and claims-tracking functions.

A version of this product is available for VAX computers.

**Price:** \$5000 – \$15,000**Contact:** Larry Kane

(319) 365-5211

TLS CO.

P.O. Box 1686

Cedar Rapids, IA 52406

**Mutual Insurance Processing System****PDP-11 Operating System:** RT-11**Keywords:** • Accounting • Financial management  
• General ledger • Information management

This package, designed by Mutual Insurance Companies, handles the complete production and maintenance of insurance policies for the Mutual Insurance Company. Features include easy entry and correction of policy information, computerized rating, automatic prorate and short-rate calculation and billing, simplified endorsement handling, computer issuance of declarations and coverage sheets, advance notices of installments due and statistical loss ratio by peril, renewals, billing (both agency and direct bill), claims processing, unearned-premium reporting, statistical loss ratio by peril for individual agents, easy follow-up of claim and underwriting files, mailing label printing, and general ledger accounting.

**Price:** \$12,000 – \$20,000**Contact:** Robert Fleegel

(612) 365-4027

BIRD ISLAND COMPUTER SERVICES, INC.

351 East Highway 212

Bird Island, MN 55310

**Property and Casualty Insurance System****PDP-11 Operating System:** RSTS**Keywords:** • Accounts payable • Accounts receivable  
• Property management

Designed for a surplus-line company that provides service to a series of agencies or brokers, this system automatically prepares daily invoices and a sales journal. Accounts payable and accounts receivable are also automatically maintained. A renewal report automatically selects policies that will expire within a given time period, for your use in obtaining renewal business for those policies. The availability of an

aged receivables report by broker and invoice is an invaluable collection tool. Detailed listings of cash receipts and disbursements provide a complete record of all transactions processed by the system.

**Price:** \$3000 - \$5000

**Contact:** Robert Davidson  
(215) 836-1406

TIMESHARING CONSULTANTS OF PENNSYLVANIA,  
INC.

6107 West Mill Road  
Flourtown, PA 19031

### **TSH/CRIS — Credit Insurance Administration**

**PDP-11 Operating System:** Independent, TSX-PLUS™

**Keywords:** • Credit • Information management  
• Report writer

This on-line, menu-driven system, written in COBOL, maintains files of creditors, certificates, incurred claims, claim checks paid, underwriting parameters, commission and override percentages, disabled life factors, and mortality reserve factors. The certificate master file supports individual and group, joint and single life with level, reducing, disability coverage, and reinsurance. Batch reports include billings and commissions; statutory, GAAP, and disabled life reserves; and a wide variety of management reports. All reports are generated through the use of run-time menus. A user-maintained security file creates the screens and updates the files.

TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$35,000 - \$75,000

**Contact:** W. W. Leroy, Jr.  
(404) 231-1484

THE SOFTWARE HOUSE, INC.

P.O. Box 52661

Atlanta, GA 30355

### **TSH/Ordinary Insurance Administration**

**PDP-11 Operating System:** Independent, TSX-PLUS™

**Keywords:** • Health care • Report writer • Statistics

This on-line, menu-driven system maintains the rate book agent, policy, commission, nonforfeiture, reserve factor, and employer/salary savings masters. The system, written in COBOL, also supports par, nonpar, life and health policies, and side-fund accounting, annuities, and "universal life" applications. Reports include policy specification pages, NAIC cost disclosures, and cash value pages, premiums, commissions, agent production, statutory and GAAP reserves, page 15, and Schedule T. All reports are generated through the user of run-time menus. All screens are built and all files are updated under the control of a user-maintained security file.



TSX-PLUS™ is a trademark of S & H Computer Systems, Inc.

A version of this product is available for VAX computers.

**Price:** \$35,000 – \$75,000

**Contact:** W. W. Leroy, Jr.  
(404) 231-1484

THE SOFTWARE HOUSE, INC.

P.O. Box 52661

Atlanta, GA 30355

### **UDS IAS (Insurance Accounting System)**

**PDP-11 Operating System:** RT-11

**Keywords:** • Accounting • General ledger  
• Information management

This complete system for the multioffice company provides such general accounting functions as monthly P&L for each office, as well as consolidated accounting with prior-year and budget comparison; accounts receivable; accounts payable with vendor 1099; payroll; construction investment; and schedules for fixed assets, notes payable, notes receivable, and other schedules as needed by the customer.

The system also provides insurance functions: equal detail reporting for agency and direct bill; CRT customer file retrieval of all accounting and policy coverage; automatic worksheet to reduce effort to renew policy; accounts current; exception report when correct commission is not received; X-date system; ACCORD forms; evaluation of producers; and summary management reports for company, producer, and class of business, showing year-to-date premiums and commissions and comparison to prior year. The system generates detail transaction ledgers for customer, company, and producer.

The UDS Insurance Accounting System may be integrated with the UDS systems for real estate and property management. All UDS systems are delivered with word processing capability.

**Price:** \$4800 – \$12,000

**Contact:** William P. Irwin, Jr., Director of Marketing  
(404) 724-7761 or (800) 241-2404

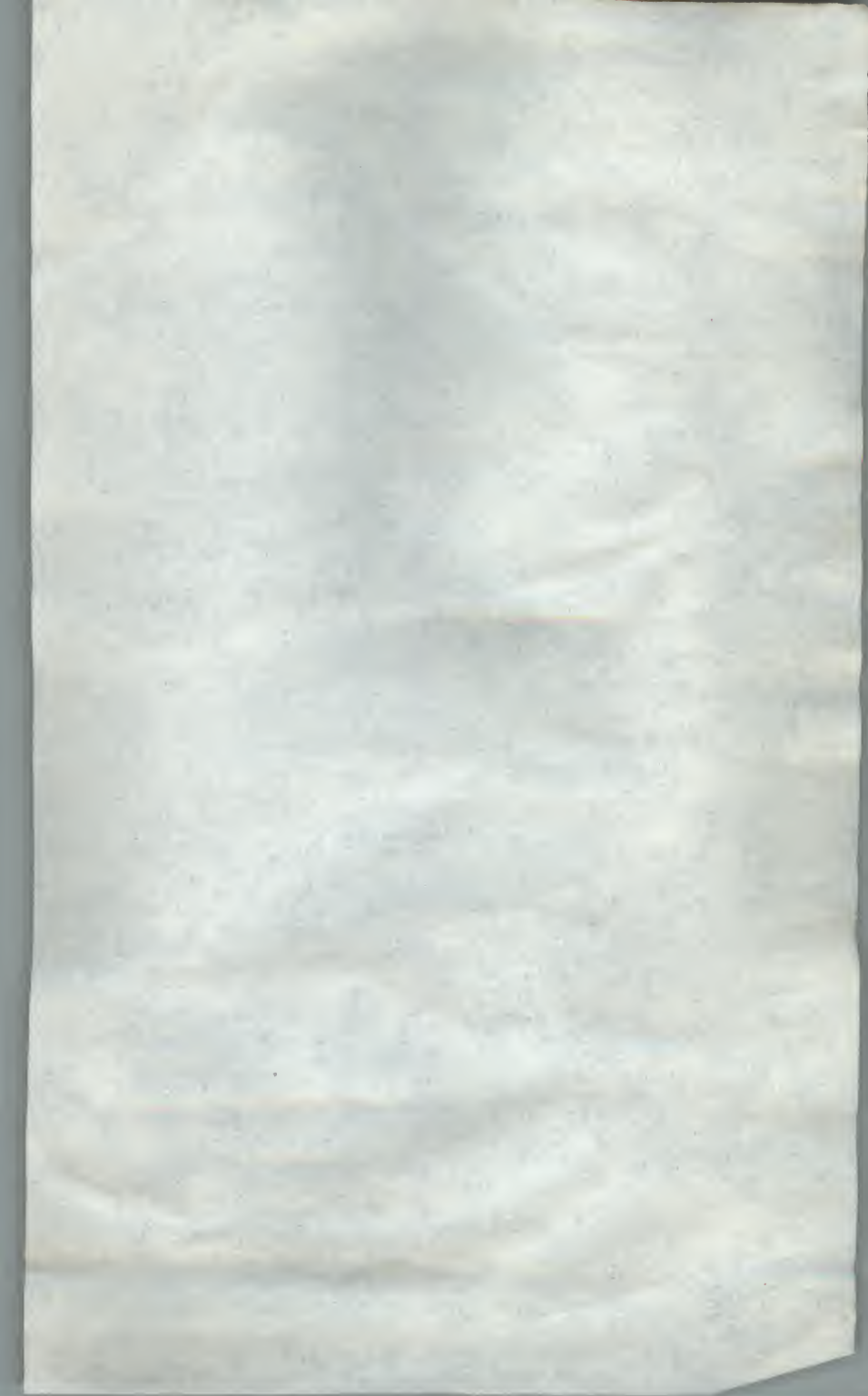
UNITED DATA SYSTEMS, INC.

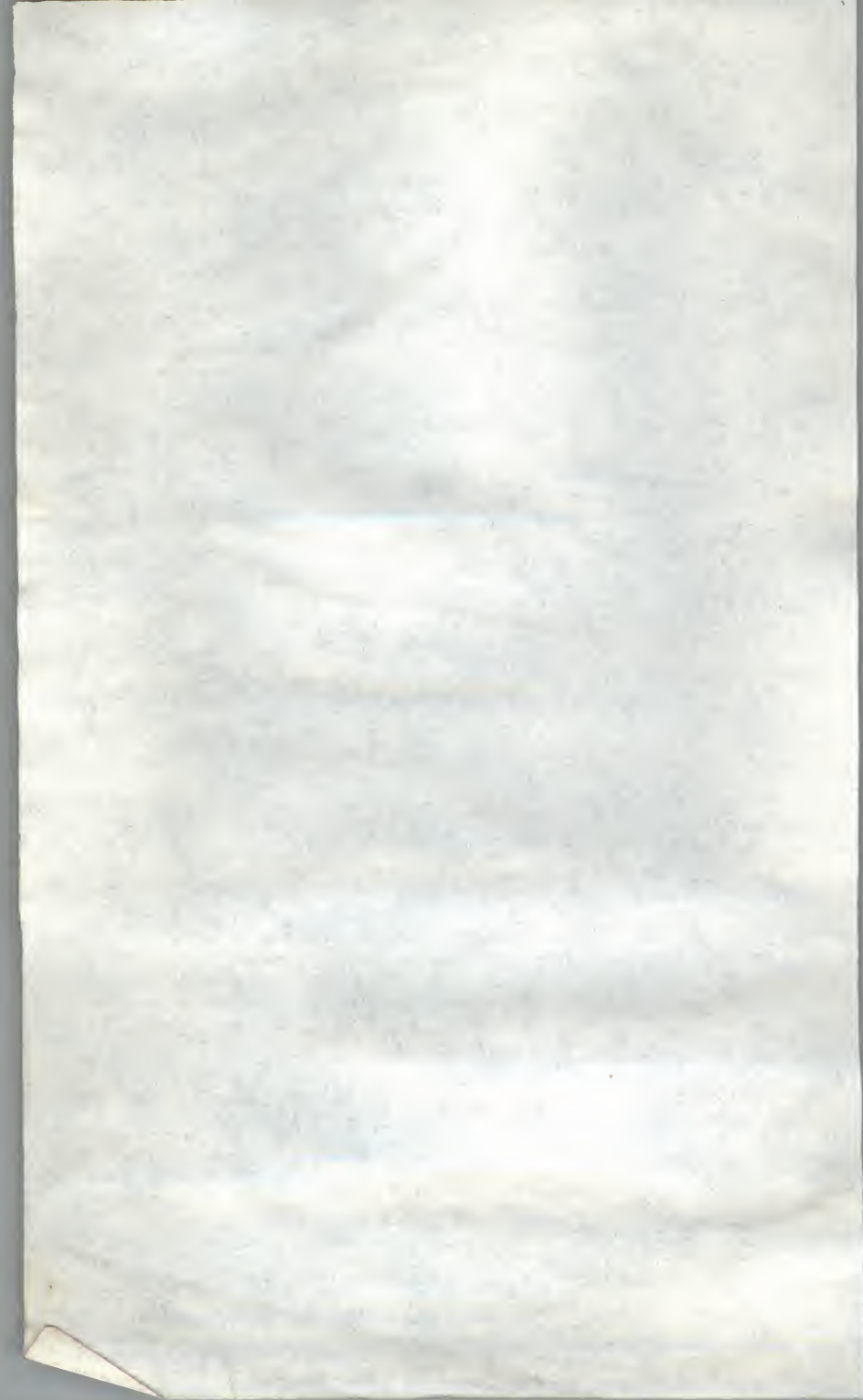
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Augusta, GA 30901

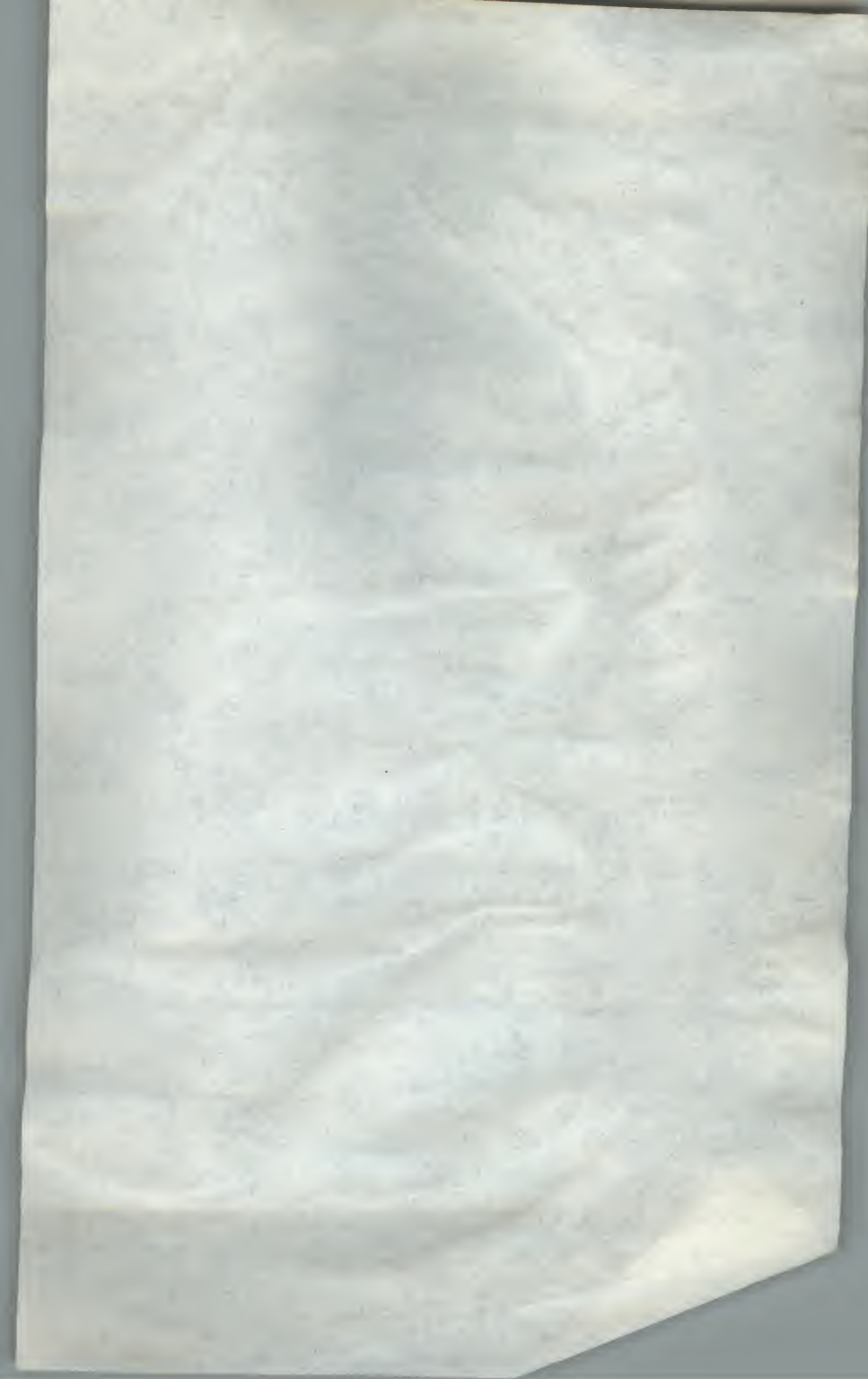


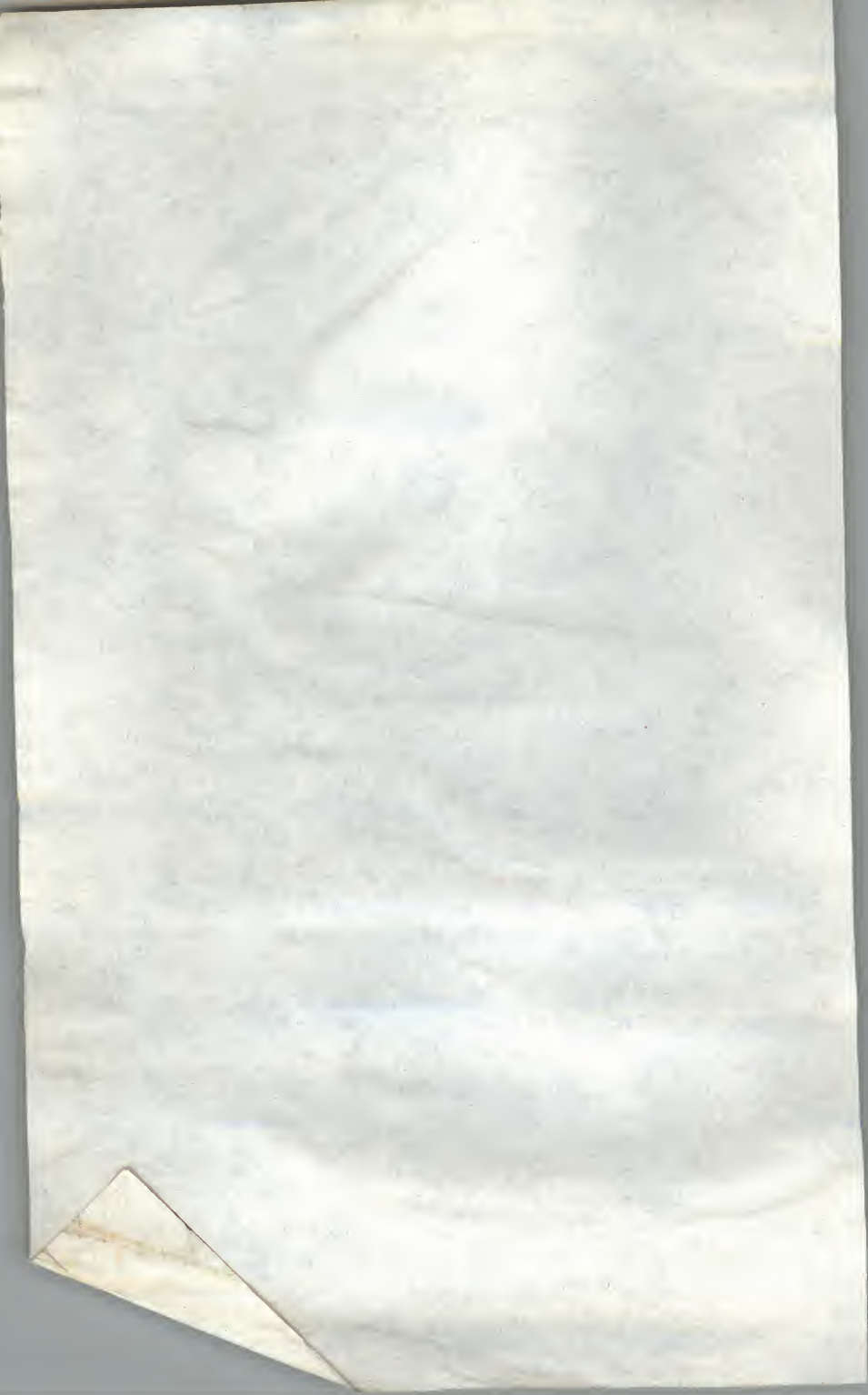
















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